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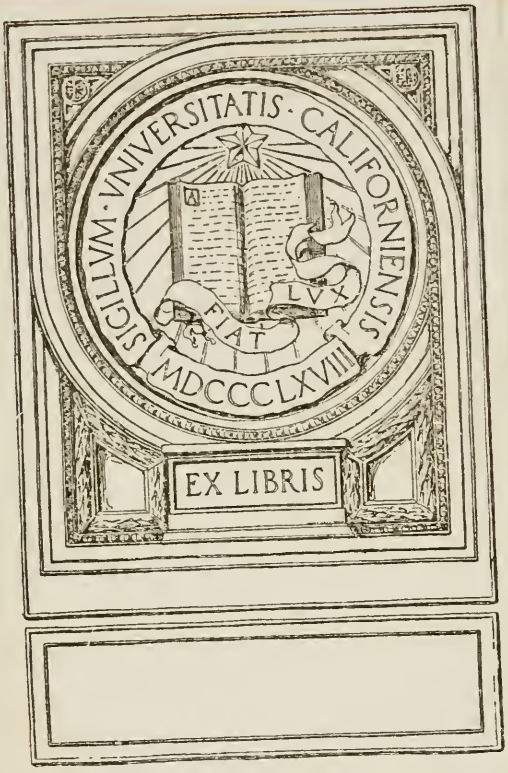

The WONDERLAND *of* THE EASTERN CONGO

Univ. of
California

¶ The rare Kivu Gorilla, shot by the Author on the Virunga Mountains, and the boy Salim.

See p. 86

The WONDERLAND *of* THE EASTERN CONGO

The Region of the Snow-Crowned Volcanoes
the Pygmies the Giant Gorilla
and the Okapi

By T. ALEXANDER BARNS
F.R.G.S., F.Z.S., F.E.S.

With an Introduction by
SIR H. H. JOHNSTON
G.C.M.G., K.C.B., D.Sc.

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GRATEFULLY DEDICATED

TO MY FRIEND AND PATRON

JAMES JOHN JOICEY, ESQ.

THE HILL MUSEUM OF LEPIDOPTERA
WITLEY

b

551841

Acknowledgment for the use of quotations is made to Messrs. T. Fisher Unwin, Ltd., the publishers of Mr. Cullen Gouldsbury's poems, "Songs out of Exile" and "From the Outposts."

Preface

AS Sir Harry Johnston has been kind enough to interest himself in this my first literary venture—even to the extent of writing an introduction—I am not called upon to contribute a preface of any considerable length.

A preface I understand to be the author's own particular page, where he may let his fancy roam, slang his publisher, and generally kick his heels; do everything, in short, so long as he propitiates his readers.

I may say at once that, being of a restless nature, and writing not being my *forte*, I would have renounced the composition of this book if I could honestly have done so. You, my readers, may of course wish to know why I have written it, if the work is uncongenial. One reason is that I have a conscience which dubs me a shirker if I leave undone something that is worth the doing; another, that although I have reached middle age and have spent more than half my life in the African wilds, I am still a little ambitious; and the third is the spur of the naturalist and artist, who would wish to place before his public the beauties of this African Wonderland which still lie hidden from so many.

I have attempted to weave into my writing something of the fascination and spell of Africa, which bred in the solitudes of open plain and primeval forest, grip the traveller from first to last—the true Breath from the Veldt. To aid me in this I have quoted a number of verses from the poems of Cullen Gouldsbury, the African Kipling—so rich in this brooding spirit of the wild.

Preface

If I had my way I would have, at least, a round dozen of coloured plates bound up with this volume, as I love colour and as many of the animals and scenes described in this book are inspiring to an artist of wild-life. But to this my publisher will not agree.

When reading this record of my journey and what I accomplished, I would kindly ask the indulgent reader to remember that this was a " one man show." By this I mean the expedition was organised and carried out entirely by my wife and myself, and, unlike many similar undertakings, we had no assistants and little influential Government backing. We had to rely entirely on ourselves and on our own efforts to carry us over the 3,600 miles of African soil across which we travelled.

The dedication of this book is justly due to Mr. James J. Joicey for the financial aid he extended to the expedition which was made on his behalf for entomological purposes; therefore—as two dedications are impossible—I here pay my tribute to the steadfast courage and splendid comradeship of my wife, who accompanied me on this and many previous expeditions.

As the cinematograph pictures I obtained *en route*, which I had the honour of showing to the members of the Royal Geographical Society, evoked universal admiration, and as these may be considered as " screening " the book, it is therefore not too much to hope that my readers may also find this volume instructive and interesting.

My thanks are due to Sir Harry Johnston, G.C.M.G., K.C.B., etc., for his encouraging introduction to this book and to George Talbot, Esq., F.E.S., the Curator of the Hill Museum, for the trouble he has taken in revising my MS.,

¶ Mrs. T. Alexander Barns.

¶, Showing the wealth of Insect Life in the Ituri Forest. *Charaxes* and *Acraeids* feeding together on animal refuse. The *Charaxes* are voracious feeders. Here may be seen *brutus, tiridates, zoolina,* and *eupale.* There are no less than 12 large *Charaxes* and five *Acraeids* in this one bunch, forming a wonderful mosaic of colour.

for his collaboration in writing the chapter dealing with the entomological results of the expedition, and for the arranging of the illustrations of Lepidoptera.

THE AUTHOR.

SS. Guildford Castle (outward bound).
New Year's Day, 1921.

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¶. The Kivu Gorilla, shot by the Author, after it was set up by Messrs. Rowland Ward, Ltd., of 167 Piccadilly, W.1.

UNIV. OF
CALIFORNIA

TO MOTHER AFRICA

AFTER TEN YEARS

I was pretty young and foolish when I came,
The things I knew were fairly few and small—
I was eaten up with shame, but you took me just the same,
And you taught me, Mother Africa, to try and play the game
As men play it out beyond the City Wall.

* * * *

There are millions who know nothing of your spell,
And revile you for your cruelty and pain—
"Out in Africa," they say,
"Men are lost and thrown away."
WE know better, Mother Africa! your children come to stay,
And they never scale the City Wall again!

* * * *

In ten long years I've learned to love the chain
(Though, sometimes, every fetter's bound to gall),
Though you've tutored me in pain,
If God grant me ten again,
You shall have them, Mother Africa, so long as you remain
Untrammelled, and outside the City Wall.

Cullen Gouldsbury in "From the Outposts."

Introduction

By SIR HARRY JOHNSTON

SOME time in the autumn, perhaps the late autumn, of 1920 I was frequenting the map rooms and library of the Royal Geographical Society in London, in connection with an elaborate map that was being compiled to illustrate the extent of Africa covered by the twin families of the Bantu and the Semi-Bantu languages. On one such occasion, when leaving the building for the prosaic quest of lunch, I encountered the Society's president. "Hullo! How fortunate! Just going to write or telegraph to you, when I found out where you were. We've got up at very short notice a meeting to hear a paper from an extraordinary man —Barns is his name—who's been exploring the regions you and Sharpe used to know—Lake Edward, Ruwenzori, Congo Forest, Northern Rhodesia, Tanganyika. I've just got hold of Sharpe, though he's very soon starting for Liberia, and here *you* are! Wonderful, when most people are out of London! . . . No. It's not in our programme. But I couldn't let such a chance slip. . . . Remarkable films of African scenery, with wild beasts wandering about quite indifferent to the operator or his native followers; and really splendid slides of stationary subjects. You simply *must* come. . . . I shall ask you and Sharpe to propose and second the vote of thanks. You won't regret it."

I did not: nor, I think, did any one in the large audience that heard Mr. Barns, that saw Mrs. Barns, and that beheld the truly wonderful pictures of their cinematograph or the

many remarkable lantern slides from their instantaneous and timed photographs.

We were given on this occasion the gist of the chapters in this book which treat of the region about Lake Kivu, and between Kivu and Ruwenzori, special stress being laid on the wonderful gorilla of those regions (a distinct species), on the active and silent volcanoes of the Umufumbiro or Virunga region (between Lakes Kivu and Edward), and the fringe of the mighty Congo Forest, along the Semliki River. But the author's journey for his special collecting purposes seems to have begun early in 1919 (after the Great War had been closed by an armistice), at the Katanga frontier of Northern Rhodesia, to have continued across and up Lake Tanganyika to Ujiji, and thence overland through the valley of the Malagarazi River and its north-western affluents, to the lofty tablelands of Burundi. From Burundi he and his plucky wife—as capable an African explorer and photographer as her husband—made their way to Lake Kivu, and thence through the great volcanoes of Virunga to Lake Edward, especially along the almost unknown western coast of Lake Edward (where the tameness of the elephants and other big game testified to an unvisited hunter's paradise), whence they made their way to the Belgian post of Mbeni, on the middle course of the Semliki.

From Mbeni the author effected his climb up the slopes of the Ruwenzori range to an altitude of nearly 13,000 feet. From Mbeni he and his wife explored the still mysterious Congo Forest, and made their way eventually across that forest belt to Stanleyville on the Upper Congo, from Stanleyville by steamer nine hundred miles down river to Stanley Pool, from Stanley Pool by railway to

the Lower Congo, and thence to England by an ocean-going steamer.

Not much of the country crossed was absolutely new to geography, to the white man's knowledge in the twentieth century. The only portions probably not hitherto traversed by the white man were tracks between Lakes Kivu and Edward, and portions of the route—or divagations from the route—between Avakubi (on the Ituri River) and the main Congo at Stanleyville. But the whole journey was made full of novelty by the actions of the author and his wife. They have probably discovered many new species and even genera of insects through their industry in collecting and preserving; they have thrown considerable light on the sub-species or even distinct species of elephant inhabiting the eastern half of the Belgian Congo right up to the vicinity of Lake Albert; they have obtained a fine specimen of the largest known species of gorilla (originally discovered by Mr. Oscar Beringer) to the north of Lake Kivu and perhaps within the watershed of Tanganyika; possibly within that of the Nile.

Mr. Beringer's magnificent specimen, which I believe is the one exhibited at the British Museum (Natural History), was obtained in the opening years of the twentieth century, not long after the writer of this introductory chapter had returned to England from the Uganda Protectorate and from a visit to the adjoining region of the Belgian Congo. Mr. Barns's gorilla, obtained from the same district and at an altitude of ten thousand feet, is perhaps a little lower in stature, but clearly belongs to this new species, the Eastern gorilla, *Gorilla beringeri*; distinct from the gorilla of West Central Africa (Luango, Gaboon, Cameroons and Ja River)

in detail of skull proportions, in not having quite such long canine teeth, in greater size of body and a greater growth and length of hair on the head.

The first white man intelligently to appreciate the existence of the chimpanzi and gorilla in West-central Africa, and to distinguish between them, was the English sailor, Andrew Battel of Essex, who was stranded on the Angola coast about 1592 and carried away into Luango across the lower Congo by an army of raiding negroes. He reported the existence of two kinds of man-like apes in that region : the " Engeco " (chimpanzi) and the " Pongo " (gorilla), names which still persist in that locality. His writings were published about 1613, but little heed was paid to these details for two hundred and fifty years.

The existence and characters of the chimpanzi were realised in Europe towards the end of the eighteenth century, probably first by a naturalist in Würtemberg. But the name " chimpanzi " we owe to the Portuguese, who derived it from the Bantu language of the northern Luango country where it is heard as chi-mpenze, chi-mpanzi to the present day. One of the several Hannos of Carthaginian history or legend apparently discovered the chimpanzi of the Sierra Leone coastlands some five hundred years before the Christian era, at the conclusion of an exploring voyage along the North-west Coast of Africa. But the skins brought back to Carthage were ascribed to " wild men," and the episode was forgotten or passed over till the discovery of the gorilla in the mid-nineteenth century. Then it was erroneously assumed that this Hanno had pushed his exploring voyages as far east as the Cameroons, and his name for the chimpanzi (" gorilla " —very likely derived from Fula or Wolof words meaning

" wild man ") was bestowed on the larger ape, the " gorilla," first discovered in the Gaboon by American missionaries about 1847.

But although, through Professor Owen's examination of the skulls sent home by these missionaries, the existence of the gorilla was determined as a form distinct from the chimpanzi in the coastlands of West Central Africa, north of the Congo, the emphatic identity of this large ape was not properly appreciated till after the journeys of Paul du Chaillu at the close of the 'fifties. Yet actually, before du Chaillu brought home definite accounts of the gorilla, a female gorilla was being (about 1855) exhibited through the English countryside in a travelling menagerie ; and outside the walls of an old farm-house in Berkshire was suspended a large gorilla skull, not realised as what it was till a few years ago, when it was figured in *Country Life*. The female gorilla of the circus died about the time of Paul du Chaillu's exciting book and lectures of the early 'sixties, and was identified by the superintendent of the Zoological Society.

The existence of a large species of chimpanzi in the Bahr-al-ghazal region and the adjoining forests of North-east Congo-land had been discovered by Schweinfurth in the early 'seventies. Stanley, myself, the Baptist Missionary pioneers —especially Grenfell—reported the existence of some form of chimpanzi on the Upper Congo (north bank) in the 'eighties.

Livingstone in 1870 had noted the existence of the chimpanzi (" Soko ") on the west side of Tanganyika in a form—*Anthropopithecus troglodytes marungensis*—which may be only a sub-species or variety of Schweinfurth's chimpanzi. This chimpanzi of Marungu has been thought to extend its range almost as far south as the vicinity of Lake Mweru. In the

'nineties, Grenfell photographed a very large chimpanzi derived from the north side of Stanley Pool. It must have been about five feet three inches in height. He also recorded subsequently in notes the existence of the chimpanzi in the regions *north* of the Upper Congo, but never to the *south* of that river.

In 1890, Stanley, on his return from the Emin Pasha Relief Expedition, expressed his belief to the present writer that there was a form of gorilla in the dense forests of North-east Congoland; so that when I went out to Uganda in 1899, and crossed the Semliki into the Congo Forest in 1900, I made inquiries of the Belgian officials, who thought them most appropriate; for they actually had in their possession photographs of a gorilla killed in the vicinity of Avakubi on the Ituri River.

Early in the twentieth century (1902, 1903?) Mr. Oscar Beringer (an engineer, I believe, connected with the building of the German railway to Tanganyika) penetrated the Kivu region north of Tanganyika, and in the vicinity of the Virunga volcanoes obtained the magnificent specimen of the Eastern gorilla now named after him.

In 1905, George Grenfell stated in one of his private letters that in the district of Bwela, north of the Upper Congo and near the River Motima, he came across a group of gorillas seated in a tree, and that he killed one a little over four feet in height. (The incident is further described in my two volumes on "George Grenfell and the Congo.") Grenfell knew quite enough about the anthropoid apes to distinguish between the gorilla and the chimpanzi; and from other scattered notes in his papers I gather that he considered there was a gorilla district north of the Upper Congo from the Mongala

River on the west to the Lower Aruwimi on the east. Captain Guy Burrows, about 1900, photographed a gorilla said to have been killed near the Stanley Falls, to the east of the main Congo.

The gorillas identified as the *beringeri* species, identical with the large specimen in the British Museum and with that illustrated so splendidly by Mr. Barns in this book, come from a mountain region ranging from eight to ten thousand feet in elevation. Are they specifically identical with the types killed at Avakubi on the Ituri River and east of the Stanley Falls, where the altitude above sea level cannot have been more than two thousand feet? That is a question not yet determined, just as we are not able to say whether Grenfell's gorilla of the northernmost Congo is distinct as a species, or even as a sub-species, from the Western gorillas of the Sanga River, the Cameroons, Gaboon and Luango.

The Eastern gorilla illustrated in this book and further represented by the very large specimen in the British Museum, appears to be slightly more "human" in the lessened proportionate size of its canine teeth and one or two modifications of the skull, the arrangement of the head hair and prominence of the nose.* (The Neanderthal species of man who existed in central, western and southern Europe from five hundred thousand to one hundred thousand years ago (or even later) had a nose very like an exaggeration of the gorilla type: depressed as regards bridge, but very prominent and bulging over and around the nostrils.)

The problem of the anthropoid apes in Africa at the present day may be stated thus:—

* The features and appearance of the Western gorilla of the Gaboon are admirably illustrated in the September Bulletin of the New York Zoological Society, and should be compared with those of the Eastern gorilla in this book.

The gorilla is distributed (apparently with intervening gaps) between the elevated Virunga volcano region on the east (almost on the frontiers of Western Uganda), and the coast region of the Gaboon and the Cameroons on the west. In the Cameroons, gorillas are found certainly as far north as the middle Sanagá River, and in a southerly direction their range extends into the Luango coast country, north of the Lower Congo.

The chimpanzis in several species or sub-species are found in the southern part of the Bahr-al-ghazal province of the Anglo-Egyptian Sudan, and thence southward (through Unyoro and Western Uganda) along the western side of Tanganyika to the district of Marungu and possibly the vicinity of Lake Mweru in S. lat. 8°. Certainly the gorilla and apparently the chimpanzi, are not found *west* or *south* of the main stream of the Congo ; the chimpanzi, however, is fairly abundant through the northern forested Congo basin to the Luango coast and the Cameroons. Chimpanzis are found in the eastern and perhaps the western parts of Southern Nigeria. They have never been reported from Dahomé, and their existence in the Gold Coast is not established. But they are still found in the Ivory Coast forests, in Liberia, Sierra Leone, and much of Senegambia up to the Gambia River. They are larger and superficially more gorilla-like in the eastern half of their range than they are in West Africa.

It would almost seem at one time as though their range in the Eastern Sudan brought them within the cognizance of the ancient Egyptians, for chimpanzis were certainly known to the Greeks in the Greek colonies of Mediterranean Egypt, whither they may have been brought as curiosities from the Sudan. In the Tanagra collection of the British Museum

may be seen several models of anthropoid apes, about five hundred to six hundred B.C. in approximate date, which can only have been derived from a study of the chimpanzi. One of these—an ape riding an ox—is such a remarkable reproduction of the Schweinfurth chimpanzi that I cannot think it can have had any other model. I imagine that this ape must have been occasionally imported into Egypt from possibly a farther north habitat than it at present possesses.

But in other directions we are left with a puzzle, for the nearest fossil relations of the apes of Equatorial Africa are only—so far—to be found in North-west India, in the foothills of the Himalayas. Here, of Pliocene date, have been found a few remains evidencing the existence in Northern India of anthropoid apes allied to both chimpanzi and orang-utan. From the little we know of it, the *Palæopithecus* of North-west India found in lower Pliocene formations is rather nearer the human ancestor than any of the anthropoid remains of Europe.

These last have been found in Miocene and Pliocene formations in south-central France, southern Germany, Austria and Italy. Professor Fraas, early in the twentieth century, discovered skulls of a gibbon-like anthropoid ape of the Oligocene period in Upper Egypt. Nothing living or fossil so near to the human sub-family as the chimpanzi and gorilla has, so far, been found outside Equatorial Africa, save these few remains of a chimpanzi-like ape in North-west India. Yet nothing human, living or fossil, has as yet been found in Africa which cannot be included in two species of true Man, *Homo sapiens* and *Homo rhodesiensis*, the Neanderthaloid type recently found in northern Rhodesia. The more transitional types between apes and men that have hitherto been

brought to light have been found in Java; in the Sussex county of southern England; in France, Spain, southern Germany, and Austria. From a variety of other suggestions we may consider the most likely birthplace of man to have been not any part of Africa and *certainly* no part of America; but some region of western Asia not far from the mythical "Garden of Eden," midway in distance from the Java to which Pithecanthropos strayed, and Sussex, whither Eoanthropos penetrated before the Ice Ages developed both the hideous man of Neanderthal and the modern species of *Homo sapiens*.

Arabia, which should serve as a connecting link in the story of the mammalian and human peopling of Africa, has been many times blighted and scarred by the stupidly conducted forces clumsily controlling this little planet. Seemingly this peninsula is the remains of a vast region formerly extending farther into the Indian Ocean, which connected East Africa with Persia, India, and Malaysia; and southern India in the first half of the Tertiary epoch was more or less connected with Madagascar. But first, at the close of the Tertiaries, a terrific outburst of volcanic energy covered a great deal of the Arabian area with an impenetrable, all concealing lava flow (hiding from our knowledge the fossils in its rocks). And next came the abstraction of its rainfall and the creation of its shifting and concealing sands. And lastly arose the Islamic "faith," a cruel parody of Judaism and Christianity, the worst form of knowledge-destroying religion that man has yet invented. Islamic fanaticism has abstracted Southern Arabia from the examination of educated eyes.

Nevertheless, though Arabia, through climatic and human recalcitrancy has been reduced to a negation, we must assume

from the little we know about it that as late as forty or fifty thousand years ago it was still a well-watered region, serving as a route between Syria, India, Persia and Africa, across which travelled the giraffes, the anthropoid apes, the buffaloes, many of the antelopes, the zebras and asses, and the early types of *Homo sapiens*. Another path for the peopling of Africa in the Pliocene and Pleistocene was the land connection across the Mediterranean, the Italian land-route, which down to some twenty to thirty thousand years ago cut the Mediterranean in two and linked up Malta, Tripoli and Tunis with Sicily and Italy.

At no very remote period and well within the human era, the mammals of Algeria, Morocco and Tunis resembled very strongly those of Eastern and South Africa at the present day. Much of the Sahara was then a shallow sea, but there was the broad belt of land, the Tasili-Tibesti plateaux and mountains, which connected Algeria and Tunis with the Central Sudan. Across this diagonal mountainous area travelled to east and south the white rhinoceros, the African elephant, several of the antelopes, the buffalo with enormous horns fourteen feet long (*Bubalis antiquus*), the eland and the hyena. An even more important route in the advance of the modern mammalian fauna over East and South Africa was the valley of the Nile and the mountainous region east of it, once directly connected with Arabia across the Red Sea Rift valley. From Egypt and Abyssinia came contingents of big and remarkable beasts, and probably the Negro and Negroid types of man to journey southward to another great scene of expansion : Trans-Zambezian Africa and Southern Angola.

South Africa, where, for the past hundred years, and more

brought to light have been found in Java; in the Sussex county of southern England; in France, Spain, southern Germany, and Austria. From a variety of other suggestions we may consider the most likely birthplace of man to have been not any part of Africa and *certainly* no part of America; but some region of western Asia not far from the mythical "Garden of Eden," midway in distance from the Java to which Pithecanthropos strayed, and Sussex, whither Eoanthropos penetrated before the Ice Ages developed both the hideous man of Neanderthal and the modern species of *Homo sapiens*.

Arabia, which should serve as a connecting link in the story of the mammalian and human peopling of Africa, has been many times blighted and scarred by the stupidly conducted forces clumsily controlling this little planet. Seemingly this peninsula is the remains of a vast region formerly extending farther into the Indian Ocean, which connected East Africa with Persia, India, and Malaysia; and southern India in the first half of the Tertiary epoch was more or less connected with Madagascar. But first, at the close of the Tertiaries, a terrific outburst of volcanic energy covered a great deal of the Arabian area with an impenetrable, all concealing lava flow (hiding from our knowledge the fossils in its rocks). And next came the abstraction of its rainfall and the creation of its shifting and concealing sands. And lastly arose the Islamic "faith," a cruel parody of Judaism and Christianity, the worst form of knowledge-destroying religion that man has yet invented. Islamic fanaticism has abstracted Southern Arabia from the examination of educated eyes.

Nevertheless, though Arabia, through climatic and human recalcitrancy has been reduced to a negation, we must assume

from the little we know about it that as late as forty or fifty thousand years ago it was still a well-watered region, serving as a route between Syria, India, Persia and Africa, across which travelled the giraffes, the anthropoid apes, the buffaloes, many of the antelopes, the zebras and asses, and the early types of *Homo sapiens*. Another path for the peopling of Africa in the Pliocene and Pleistocene was the land connection across the Mediterranean, the Italian land-route, which down to some twenty to thirty thousand years ago cut the Mediterranean in two and linked up Malta, Tripoli and Tunis with Sicily and Italy.

At no very remote period and well within the human era, the mammals of Algeria, Morocco and Tunis resembled very strongly those of Eastern and South Africa at the present day. Much of the Sahara was then a shallow sea, but there was the broad belt of land, the Tasili-Tibesti plateaux and mountains, which connected Algeria and Tunis with the Central Sudan. Across this diagonal mountainous area travelled to east and south the white rhinoceros, the African elephant, several of the antelopes, the buffalo with enormous horns fourteen feet long (*Bubalis antiquus*), the eland and the hyena. An even more important route in the advance of the modern mammalian fauna over East and South Africa was the valley of the Nile and the mountainous region east of it, once directly connected with Arabia across the Red Sea Rift valley. From Egypt and Abyssinia came contingents of big and remarkable beasts, and probably the Negro and Negroid types of man to journey southward to another great scene of expansion: Trans-Zambezian Africa and Southern Angola.

South Africa, where, for the past hundred years, and more

furiously than ever since the Great War, the British, German, and the Boer settlers have been exterminating with reckless blood-lust a most magnificent mammalian fauna; South Africa, outside the forests of the Central region, offered a singular resemblance in its extravagant mammalian forms to the beasts of prehistoric Algeria, and of Abyssinia, Somaliland, and equatorial East Africa. Vestiges of this wealth were encountered by the author of this book and have been seen by many of those who from the days of Speke and Grant onwards have penetrated East Africa up to the borders of the Congo forests.

Not a few of the beasts and birds, living and extinct, which have been found in North Africa, Abyssinia, the eastern Sudan, Somaliland, and equatorial East Africa down to the sixth degree of S. latitude, are not only absent entirely from the central basin of the Congo but do not reappear till the Zambezi has been crossed and the South African sphere has been entered. A somewhat similar gap in distribution may be noted in the Americas where there may be great resemblances between the existing mammalian fauna of South America and that of pre-Glacial North America, with very little (to-day) in the way of living or fossil forms in Central America to connect them, the fauna not having cared to linger long in the attenuated connecting parts.

But in Central Africa there has been no lack of space for the maintenance of the southward-tending beasts and birds: we can only assume that the rather narrow connecting belt between north and south in East Africa has been caused by the existence of a vast recent lake over the inner Congo basin. Similarly, to account for the present distribution of beasts, birds, reptiles and fresh-water fish between North Africa

and the Sudan and northern equatorial zone, we are obliged to assume that in prehistoric, but not very distant times, much of the Sahara and Libyan deserts were covered by a wide expanse of shallow sea, or by fresh-water lakes many times larger in area than the Victoria Nyanza and Lake Chad. There is some local evidence to support this assumption.

Along the Eastern route, from Syria and Arabia, through Egypt and Abyssinia we may surmise justifiably that the anthropoid apes came to east equatorial Africa, and thence crossed the continent in the forms of the chimpanzi, to extend their range through its vast western forests. The gorilla, perhaps arriving later, only penetrated westward to the proximity of the Niger delta.

The okapi likewise passed from Egypt (its nearest relations are found fossil in Greece and Asia Minor) to the north-eastern Congo forests, but has not—as has the *Hylochœrus* genus of swine—been found west of the Mubangi affluent of the Congo.

The fossil remains of an equine like the zebra have been found in Algeria, but no wild ass or zebra has been located in the Sahara or Libyan deserts ; or anywhere *west* of the main Nile, as far south as the Semliki River and the north end of Tanganyika. The range of the zebra, in two or more species, skirts the south end of Tanganyika and in general the southern limits of the Congo basin, and penetrates into Angola, south of the Kwanza River. The range of the rhinoceroses in the *southern* half of Africa is very much that of the zebras except, of course, that within the last hundred years the white rhinoceros has been virtually exterminated in Trans-Zambezian Africa by the British-Boer white man. But *north* of the equator both forms of the rhinoceros may be found *west*

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of the main Nile ; and the black rhinoceros extends its range —seemingly—into Eastern Nigeria (though not to the west of the Niger) ; and according to the Roman records, was once very abundant south of the Sahara, round Lake Chad.

The vast forests of Central Congoland, *south* and *west* of the main stream, are to-day very different from the Northern Congo basin, the Cameroons, and the Tanganyika region in their mammalian fauna, different in what they lack rather than in what they possess. They are apparently without anthropoid apes, giraffe or okapi, water chevrotain, and most of the antelopes, the *Hylochœrus* pig, rhinoceros, zebra or the *Manis* edentates (except the wide-spread *Manis temmincki*), and seemingly lack the aardvark.

The reason for this poverty in mammalian fauna seems to have been that within Pliocene and Pleistocene times, when the rest of Africa was being peopled with the mammals and birds of Europe and Asia, the Central Congo basin was a vast fresh-water lake of which Lakes Leopold II and Mantumba are tiny residuary fragments. This question has been treated at some length in my work on Grenfell's explorations, so it is not necessary to descant further on it here.

Similarly, and also within the human period, much of the Sahara and Libyan deserts was under water ; so that the routes by which tropical Africa received its modern mammals and its early types of man from the Mediterranean lands and from Western Asia were virtually restricted to the elevated strip of the Tasili-Tibesti highlands from Algeria to Darfur, and the mountainous country east of the Nile, from Egypt to Abyssinia and East Africa. Much of the Bahr-al-ghazal basin between Wadai and the vicinity of the Mountain Nile was a vast shallow lake.

Both these routes converged to what is, perhaps, the most interesting region of all Africa at the present day : the country known as the Albertine Rift Valley, through which in the north flows the Semliki River to join Lake Albert, while beyond Lake Edward the now elevated Lake Kivu sends its waters southward into Tanganyika to join the Congo system. Clearly, at no very distant interval of time, volcanic disturbances (now made evident in the active and passive volcanoes of Virunga) had not raised Kivu two thousand feet above the level of Tanganyika ; and Livingstone's theory might then have been true, that Tanganyika was the farthest source of the Nile, with its waters flowing northwards to the Albert Nyanza over the bed of the Semliki. But with the bending upwards of this Rift valley, Tanganyika became long isolated (its tribute to the Congo is even now intermittent and liable to interruption). When first discovered by Burton and Livingstone, Tanganyika may have been in one of its phases of isolation with its stagnant, rising water turning to salinity. Its aquatic fauna is very peculiar, suggesting long separation from the Nile basin, yet no great degree of connection with Congo waters. Tanganyika is a Rift Valley lake, probably of considerable age and quite different to the broad and—in comparison—very shallow Victoria Nyanza. Tanganyika has depths of four thousand seven hundred feet ; the Victoria has no greater depth than about two hundred and forty feet. Tanganyika lies on the eastern frontier of forested Africa, of the region which extends with some interruptions and lessening of its rich and peculiar fauna westwards across equatorial Africa to the mouth of the Gambia in West Africa. Faunistically speaking, the west and north coasts of Tanganyika are in West Africa, the south and east

coasts in East Africa. Lakes Kivu and Edward are similarly on the border line. Lake Albert is virtually East African.

But east of the Albert, and north and east of the Victoria Nyanza there still persist areas and patches of " West African " forest, with the grey parrot, the large corytheola plantain-eater, and many other West African bird types, the Bongo tragelaph, the Potto lemur, and numerous West African species of bats, rodents, hyraxes and *Manis* edentates. These patches of forest with their " West African " beasts, birds, reptiles, spiders, and insects really remain as relics of a forest belt that in the Tertiary epoch passed continuously across lands now arid or sunk in the sea between equatorial Africa and India. In the Pleistocene a lessening in rainfall or a lowering in temperature created the distinction between prairieland and forest belt ; and the great fauna of Europe and the Mediterranean basin passed through eastern equatorial Africa where the forest was weakest, down to the prairie lands and grassy plateaux of the South.

The Albertine Rift Valley, so much the special sphere of Mr. Barns's research, is just one of those districts where the change of fauna and flora is most abruptly contrasted : for he has stood where I have stood, facing north ; and almost descrying from the same standpoint on the left hand the abrupt ending of the dense forest with skulls of the small red forest buffalo in the herbage ; and on the right, grassy plains with only an occasional borassus palm or low-growing acacia tree, teeming with East African antelopes, big-horned Cape buffalos, zebras and rhinoceroses.

He has likewise seen and known the Hamitic aristocracy of these open grass countries, abruptly verging on the forest.

In the abundant populations—spared for a time, at any rate, from the ghastly infection of sleeping sickness, because much of their country rises above the levels affected by the tsetse fly—may be seen the Negro peasantry and cultivators and the aristocracy of tall, handsome Bahima or Batusi. This superior caste is *mainly* of Negro race (when truth is told), but is obviously descended from something that was not Negro, once—ancient Egyptian, Gala, Somal, " Fuzzie-wuzzie," from the north and north-east. These Hamites, who are further remarkable for speaking the purest and most highly developed Bantu languages, seem more especially to have carried out an invasion of the Albertine Rift Valley between western Uganda and the edge of the Congo Forest about two thousand years ago ; and to have pushed their invasion southward to the north end of Tanganyika, and in an attenuated form both west and east of Tanganyika ; till, growing ever more " negro " in physique (yet often retaining a fine cast of countenance) they founded states north of Nyasa and west of Tanganyika. They even pushed the influence of their blood, intelligence, and mental vigour into the southern part of the Congo basin—the land of Lunda—may even have pushed on south till they brought some racial influence of the Hamite in face-features and intelligence to the southern Bantu, and so survived here and there among the Hereró, the Karaña and the Zulu.

But in Western Uganda, in Toro, Ankole, Ruanda, Karagwe and Burundi, they still remain as a distinct and sovereign caste. The hair is tightly crinkled but (when allowed to grow) is long and abundant, and the facial features are not those of the negro but of the handsome Gala, Somali, and Ancient Egyptian.

H. H. Johnston.

THE WONDERLAND OF THE EASTERN CONGO

CHAPTER I

FROM THE KATANGA COPPER BELT TO LAKE TANGANYIKA

"Cape to Cairo! Steamer to steamer!
Rail and wire from South to North. . . .
Men guffawed at the Master Schemer,
Fools waxed loud in their foolish wrath . . .
But the project held, and the words went forth,
Sister-nations hurried to aid,
Stung by the dream of a dumb, dead Dreamer,
Men toiled on till the rails were laid."

Rhodes's Dream. Verse IV.

IT may be truly said that a second Rand is developing itself in the Katanga. This highly mineralised area, where are to be found green mountains of copper, fields of tin, gold and diamonds, will, I venture to predict, one day become second to none in the whole of Africa. Like the Ituri gold district, of the north-east Congo, its potentialities are unlimited.

The Katanga Copper Mines, which are at present exploited by a company styled *L'Union Minière du Haut Katanga*, are very rich and numerous, too numerous it is said for this one company to work; it being now considered necessary to grant concessions to a new financial group to exploit those mines to the west of the Lualaba Valley.

New ways of communication have now been devised to reach this rich district, principal amongst which is the Lobito

Bay Railway, which is again being pushed forward with new energy and capital. In all likelihood the junction with the Cape to Cairo Railway will occur at a small place called Fungarumi, high up on the Lufira-Lualaba Watershed. Stands, at this place, are already reaching a high figure in consequence. Apart from the Cape Railway, the Katanga can now be reached mechanically by rail and steamer from Boma up the Congo and Lualaba Rivers to Bukama, also by rail and steamer via Dar-es-Salaam and Kigoma, across Lake Tanganyika to Albertville and thence to Kabalo and up the Lualaba River.

The natives working on the mines are recruited from all over South Central Africa : principally of late from Portuguese Angola ; these natives make first-class workmen after a month's training with pick and shovel.

The mine "boys" are thoroughly well looked after, especially as regards food—there being a daily ration on a liberal scale fixed by Government, which includes a good portion of fresh meat and vegetables and nuts or beans and palm-oil. This fixed rationing of natives besides being an inducement to good work—it being proverbial that a hungry negro is good for nothing at all—gives a great impetus to trade, and as more than 60,000 natives are employed annually by the various companies in the neighbourhood, some idea can be gained of the amount of produce required to feed them and the extent of the market.

Elisabethville, the capital of the Katanga Concession, is a remarkably well laid out town of over 1,600 inhabitants, only ten days by train from Cape Town. Since the advent of the railway this place has made rapid progress and now contains many fine buildings, and good hotels with every

¶ Transporting Iron Telegraph Poles to Lake Tanganyika for the Cape-to-Cairo Line. Each pole is one boy's load.

¶, Albino Negro Children. The father and mother are to be seen to the right and left respectively.

modern luxury. The Vice-Governor's palace is a really beautiful building, reminding one of some villa on the Riviera.

The town stands on the headwaters of the Lufubu River, an affluent of the Luapula. Good big game shooting is to be had in the vicinity and good motor roads run out in all directions. Lake Mweru can be reached by motor car or by cycle in one day and the lake is likely to become an attraction to visitors in the near future.

Likasi, on the northern slope of the Lufira Valley, one of the copper mines to be opened up within the last three years, has now become a net-work of railways and sidings —a branch from the main line to the new township having been completed in the latter part of 1918. A large concentrating plant was in course of erection when I left and a mountain of copper and another of limestone flux were being blasted away. Smelters will come later, then the copper ore from the mines to the north will be treated at this new centre instead of at Elisabethville, as at present.

The climate of the Katanga highlands, which have a mean elevation of about 3,800 feet above sea level, is perhaps unsurpassable. The country is splendidly wooded and well watered, and the absence of agricultural enterprise is therefore striking. There are not a dozen farms in the neighbourhood of any importance and yet there is an unlimited market for every description of produce. Certainly the soil is heavy clay for the most part but very rich when properly "worked." The Government will be well advised if they encourage agriculture and stock raising in all its branches and so keep in the country the very large sums

that go out annually for meat and produce, the food supply of the whole of the Katanga being obtained, with few exceptions, from Rhodesia and South Africa. The Lufira and Lufubu Valleys are admirably suited for agriculture and the Manika Plateau is a splendid cattle country free of "fly," with a rich pasture, well-watered and in every way suitable for stock. Moreover, the tsetse fly, where found, does not run in large belts and is on the decrease.

The fact is the country has not yet been sufficiently advertised. The independent Europeans now to be found there—Greek and Italian traders and Jews of many nationalities—are the wrong class for agricultural enterprise. These bloodsuckers are engaged in all manner of mining contracts and shady commerce, whereby they fleece both white and black. The best class of settler should be advertised for and given every encouragement by the Government.

The *Comité Spécial du Katanga* grant farms on cheap and easy terms, but so far these have only been taken up by contractors and others as a side-line or place for a country residence. There is a quick fortune to be made near these mines by the hard-working man with a modest capital, either in trading or mixed farming, and both the *Union Minière* and the *Comité Spécial* will welcome any such and give all the assistance in their power. When I left the district in May, 1919, and before the franc went down in value, the following prices ruled in Elisabethville : beef 3f. 50c. per kilo ; mutton 5f. 00c. per kilo ; pork 5f. 00c. per kilo ; onions 2f. 50c. per kilo ; potatoes from 1f. 00c. to 2f. 00c. per kilo ; tomatoes 1f. 50c. per kilo ; cabbages 1f. 00c. each ; lemons 50c. each ; pumpkins and vegetable marrows 1f. 00c. to 1f. 50c. each ; lettuces four for 1f. 00c. ; milk 1f. 50c. per pint

¶, Male and female Varanus Lizards

¶. Raphia Palms on the river bank in South Congoland.

bottle ; eggs 9f. 00c. per dozen ; butter 3f. 50c. to 4f. 00c. per lb.

The foregoing gives an outline of the conditions prevailing in the Congo Copper Belt which we were to leave behind us on our long northward journey.

The trip from Elisabethville along the lately completed line to Bukama on the Lualaba River will take the traveller some forty hours, including the wait of an hour or more at Kambove. After leaving the latter place there is a gradual rise to the more open country around Chilongo, on the southern end of the Manika Plateau, where the climate is cold and invigorating, standing as it does on the watershed between the Lufira and Lualaba Valleys at an elevation of nearly 5,000 feet above sea-level. From here the descent into the Lualaba Valley begins, at first passing through immense open plains and then again into the thick forest as before. On reaching the Kalule and Kalengwe Rivers close to the Lualaba the scenery is enthralling, and so helps one to forget the danger, or what feels like danger, attendant upon the crossing of the shaky trestle wooden bridges that span some of the gorges and cataracts. These timber bridges are of so bad a design that some of the engine-drivers refuse to take the big American engines across them. However, they are to be replaced by iron structures as soon as the material is available.

The mail train arrives at Bukama in the night. This place is of an uninteresting nature, hot and feverish to a marked degree, with no accommodation for travellers and no fresh food obtainable. This is unfortunate, as one usually has to wait here several days for a river steamer. The Lualaba River at Bukama being found to be too shallow

for the 150-ton paddle steamers that ply between here and Kongolo, the Katanga Railway authorities are contemplating extending the line to Kiabo, on the eastern side of Lake Kissale. Why this was not done in the first place remains a mystery, to be accounted for, no doubt, by the very cursory construction and surveying methods which show themselves elsewhere along this line.

The rainy season having been an unusually poor one and the river very low in consequence, we were lucky to catch, in the first week in June, the last steamer to reach Bukama for that season. As we had been "eating our heads off" at this beastly place for four days, without fresh food of any kind, we hailed with the greatest delight the little stern-wheeler the *Baron Janssen*, and as she was to sail the following day we were soon aboard. The food supplied proved to be excellent, but the lower deck, where our cabin was situated, like so many of the Belgian river steamers, left a good deal to be desired in the way of cleanliness. It was littered with the ordure of negro men, women, and children, being crowded with these noisy people themselves, together with their accompanying livestock. The African traveller, however, soon becomes inured to sights, sounds, and smells that are only dreamt of in nightmares by ordinary mortals, so we gave the lower deck a wide berth after stowing away our baggage, and were soon taking the fresh air above and interesting ourselves in the passing scenery.

Shortly after leaving Bukama the Lualaba flows into a chain of small lakes named respectively Kabele, Upemba, Kissale, Lusambo, and Kalamba, the biggest of which is Kissale. When about to enter the first of these lakes we passed another steamer stuck fast on a sand bank in mid-

stream ; it had been there for six days. This mishap, I was told, was due as much to the proverbial intemperance of the river captain as to the nature of the river itself.

Like all African river steamers, the *Baron Janssen* uses wood for her boilers, so it was not until the operation of " wooding " was accomplished by piling up every available space on the steamer with logs from a wood station on the banks that we got fairly under way, nightfall finding us nearing Lake Kisale, close to which the captain tied up for the night.

Until one comes out into the open waters of this lake the view is dull and uninteresting, bounded as it is by papyrus swamps, but here many interesting birds and water-plants are to be seen. Then again on leaving the lake the papyrus swamp is replaced by lacustrine plains which form low but solid banks to the river, where herds of elephant, buffalo, and other game are seen. Farther downstream as we approach Ankora the banks are forested with splendid palms of several kinds, principally of the oil (Elaïs), borassus, and ivory-nut species. As these are mirrored in the dark and winding river the whole makes a panorama of exceeding beauty.

Some seven years ago this region was the centre of a thriving palm-oil industry and was thickly populated by the Baluba natives engaged in cultivating the Elaïs palm and extracting the thick oil to be obtained from the fruit, but with the advent of what may be termed the sleeping sickness epidemic which ravaged Central Africa in the last decade, these natives were exterminated, the district being now practically deserted and given over to immense herds of elephant and buffalo, who roam there unchallenged.

The fourth and last day of our voyage, which brought us into Kabalo, took us past Ankora, the administrative centre of the district on the mouth of the Luvua River which flows out of the north end of Lake Mweru. The small town of Kabalo being built amidst marshy surroundings is uninviting and mosquito ridden; it forms the terminus of the short section of railway completed during the war, connecting the Upper Congo River (or Lualaba) with Albertville on Lake Tanganyika. The bi-weekly mail train leaves Kabalo at 6 a.m. and reaching Albertville at sundown, takes twelve hours to do the hundred and sixty-five miles. Half way along its length, this line follows the Lukuga River very closely, and much beautiful and wild river scenery is passed. There appeared to be no change in the surrounding bush, all the trees and shrubs in the open forest were old friends, familiar to me farther south in Northern Rhodesia and the Chambezi Valley.

Our little train puffed into Albertville at sundown towards the end of June, 1919. Fortunately for us, as at Kabalo, there is a limited accommodation for travellers which consists of wooden huts, near the railway, belonging to the *Compagnie des Grands Lacs*, for the use of which five francs per day is charged.

Albertville, which is partly built on a narrow strip of foreshore and partly above on the high sandstone cliffs, lies almost on the sixth degree south of the equator, and close up to the only outlet of the Tanganyika waters, where the Lukuga River has its source. The volume of water which flows through this gap in the western wall of the lake, changes according to the seasons, but of recent years there has been no large overflow, its tendency being to

diminish rather than to increase. There are at present several shallow channels wandering through the expanse of sand and reeds which front the mouth of this river, but a great many years ago, judging by the water-worn cuttings in the soft sandstone, it was very much otherwise, for then the overflow must have been of imposing dimensions and considerable depth.

Although Albertville has now only eight white inhabitants, it was during the German East Campaign that it assumed some importance as a base of operations for the Tanganyika Naval Expedition. It was from here that the little motor gunboats set out to smash up the *Hermann von Wissmann* and so clear the way for the advance across the lake and up the Tabora Railway from Kigoma. For this purpose engines and rolling stock were taken across from Albertville. Here also the Naval Expedition launched the *King George*, originally the Congo Governor's yacht. This boat was taken to pieces at Kabalo, railed to Albertville, put together again there and floated in the record time of seven days.

As is well known this expedition was in charge of Commander Spicer-Simpson, who was especially reverenced by the local tribesmen on account of his wearing kilts. These savages never having seen a white man in this garb before, put him down as something exceptional in the way of a "White God," giving him the name of Chifungatumbo, which means literally, the "man who wears a stomach cloth." The Commander was known by this name up and down the length of Tanganyika—such is fame in Africa!

A few hours' steaming to the north of Albertville, lies Lake Toa, where the Belgian Military Aerodrome was

situated and from which place the first hydroplane on Lake Tanganyika set forth to bomb the Germans at Kigoma. There were many set backs before the hydroplane could be put into flying trim, with the result that Kigoma was found to be evacuated when the first flight over the harbour was made.

CHAPTER II

LAKE TANGANYIKA; KIGOMA AND UJIJI AND OUR START FOR THE NORTH

"Partly for the sake of gold
At the Rainbow's End,
Glamour of old tales told
At the gloom of day.
Partly, too, for the peace
Wide spaces lend,
Sought we the soft release
Of the Far Away."

The Pioneers. Verse I.

LYING between the third and ninth parallels of latitude south of the equator, Lake Tanganyika is the longest lake in Africa, being four hundred miles in length, and an average of thirty miles in breadth. It stands, surrounded by great mountain ranges which form a vast abyss, at 2,756 feet above sea level. Its greatest depth has never yet been fathomed but it is most certainly well over four thousand seven hundred feet. The "dogs of war" seem to have taken away some of its mystery and charm, but not one whit of its interest for the naturalist. The votaries of destruction intent on their foul work have no time to spare for nature-study, excepting in so far as it concerns their stomachs. Thus it is that Tanganyika still offers a rich harvest for the collector and many of its problems still await solution. Although it lies in the centre of the great African rift-valley and is surrounded on three sides by other large and small lakes, it remains isolated and unconnected with all save Lake Kivu, and this connection has occurred only in comparatively recent times. Owing

to the fish-fauna of this lake presenting similarities to marine forms, the idea was current that Tanganyika represented an old Jurassic sea. This theory was expounded by Mr. J. E. S. Moore (known to many old Africans as Jelly-fish Moore, on account of his connection with the collecting of the Tanganyika jelly-fish)—in his books "The Tanganyika Problem" and "To the Mountains of the Moon"; it has, however, since been found to be wrong. The large number of endemic genera of fish-fauna to be found in this lake compared to other lakes, is due to its undisturbed and isolated position, and in no way to its supposed connection with the sea.

One of the wonders of this lake and probably the least known or heard about, owing to its inaccessible position at the south end, is the Kalambo Falls. The Kalambo River, which before the Great War formed part of the boundary between Northern Rhodesia and German East Africa, is a broad and swift mountain torrent for the most part, which hurls itself practically from one of the lower ledges of the Nyassa-Tanganyika plateau, in one drop over a vast cliff, into the great gulf of Tanganyika. The fall is said to be the second highest in the world and is calculated to be seventeen hundred feet high. Owing to a sharp curve in the cliff face, little can be seen of the stupendous fall from above. To obtain a good view it is necessary to make a detour round the cliff, climb down some distance, and then to approach the fall from below. This I accomplished, and moreover reached the foot of the fall, where I obtained some very fine photographs and exposed a hundred feet of cinematograph film.

The foot of the falls is a paradise for the naturalist and

¶ The Kalambo Falls at the south end of Lake Tanganyika, said to be 1,700 feet high and the second highest waterfall in the world.

¶. The Chasm at the foot of the Kalambo Falls.
A rainbow can be seen on the rising mist.

botanist. High above on the red cliff-face are the nesting-places of marabou storks and many other birds, the lower buttresses being painted a vivid green by the many species of curious mosses and plants. Amongst these, growing in great profusion, was an elegant species of tania, the foliage of which was in perpetual agitation, caused by air pressure produced by the falling mass of water. When the sun is out a beautiful rainbow forms on the rising mist, enhancing the loveliness of this delectable spot. Like some few other places that I know, it was difficult for me to tear myself away, such was its fascination.

It is said that there is what the missionaries hereabouts call a high priest of the falls, who is credited with having to visit the foot of the falls once a year and drink its waters; but I guessed that the "priest" would turn out to be a smelly old native in bark-cloth, so I refrained from seeking him. In a place of such entrancing beauty and visited by comparatively few white men, one would like to think that the "madding crowd," with their continual striving after place and power, could be quite forgotten for a time at least. But no; for as one turns round from the very brink of the falls, one's attention is attracted by the ruins of a German military outpost. A rude shock indeed; and one moves away in disgust!

Violent tornadoes are of frequent occurrence on Lake Tanganyika, but more so in the daytime than at night; thus it was that we found ourselves, with our baggage stowed away, on the good Belgian ship the ss. *Baron Dhanis*, standing out for the open lake one hour after sundown, and Albertville a smudge in the gathering gloom. Our course lay N.N.E. for Kigoma Bay, a distance of eighty miles.

The lake being in restful mood, we passed a comfortable night, waking next morning to find Cape Bangwe right ahead and the sun just rising above it. In a little inlet before reaching the bay proper lies the *Baron von Götzen*, sunk there by the Germans; she is a steamer of about one thousand tons and had just been completed when war broke out. When we passed by, her gunwales were just showing above water, as a result of the efforts of Belgian engineers. Whether they salved her eventually I never heard.

Kigoma Bay is the finest harbour on the lake. Just before war broke out the Germans had been busy improving it with stone wharves, slip-ways and other facilities for the handling of cargoes and repairing of ships. A huge hotel built more on the lines of a fortress, as was the Germans' wont, was also in course of construction. This massive building at the time of our visit had been completed, together with other works in the harbour, by the Belgians, and was in use as a hospital. All buildings and works in the harbour are of such a substantial and costly nature that one cannot help wondering what were they all for; where were the big freights to come from, and where destined, and what were they to consist of?

Three miles away from Kigoma and connected with it by a good motor road made by the Belgians, lies the old Arab town of Ujiji, famous as the meeting-place of Livingstone and Stanley in 1871. One is rather astonished to remember that this is only forty-nine years ago, and what rapid strides have been made in the opening up of the African interior since then! It is easy as one stands here to conjure up the meeting of the two travel-worn men, both rather dilapidated, with clothes very much the worse for

¶ The "White Man's Tree" at Ujiji, on Lake Tanganyika, where Stanley found Livingstone, after his memorable journey in 1871.

¶ The old Mango Tree and the Stone erected in Commemoration of the Meeting of Livingstone and Stanley in 1871.

wear, and probably unshaven, but in the eyes of each, in their own particular way, lurking the indomitable spirit of the Anglo-Saxon.

The old mango tree, growing at the place where they met, is known to the natives as the "White Man's Tree"; underneath it the Belgians have caused to be made a solid block of masonry and cement with the words "LIVINGSTONE STANLEY. 1871" engraven on it. This spot is now some hundreds of yards away from the water's edge, but in 1871 it might be described as "on the bank close to the shore," thus telling of the sinking or drying-up process of Lake Tanganyika. Moreover, this drying-up process is inevitably going on all over Africa, more noticeable in some places than in others, but not slowly anywhere, due in no small measure to the continual deforestation that takes place year after year throughout the continent.

With a population of twenty-four thousand, Swahilis and coast natives, Ujiji has always been a great Arab trading centre, principally for slaves and ivory in years gone by. It is an exceedingly interesting old town with a maze of streets and picturesque Arab houses half hidden amongst the thick foliage of mango and palm. It is interesting to remember that the first steamer on Lake Tanganyika was launched by missionaries in 1884. The town came under German rule in 1890 and was occupied without resistance by the Belgians on July 29th, 1916.

Shortly after our arrival at Kigoma news was received that Peace had been signed, which event was duly celebrated in a general holiday, firing of guns, blowing of whistles, and a probable ending of sore heads. The death-blow, many of us must hope, to German aspirations over Lake Tanganyika.

Almost every class of Belgian that I met on my travels took an intelligent interest in my entomological work, a great deal more so than could possibly have been the case in an English colony; for truly we are a "nation of shopkeepers," intent mainly on our money-grabbing, and worse still, giving little or no attention to the beauties of nature. Thus it was that I received the generous assistance of both individuals and the Government in the carrying forward of the expedition to that part of German East Africa occupied by the Belgian forces—the Ruanda and Urundi.

To travel through the heart of these districts, I considered that a good starting place would be the Ruchugi River, which joins the Malagarasi River near the station and salt mines of Gottorp; some six hours' journey from Kigoma.

Now, the real difficulties of all such expeditions as the one I was making, are (1) the porters and (2) their food. Without reliable carriers and headmen in a country such as this, any expedition might well fail. Realising this, I approached General Malfert, the Governor of the conquered territory. He was much interested in my undertaking, and very kindly caused letters to be sent to the different "Chefs de Territoire" to aid me in every possible way, thus at once removing a great load from my shoulders. At the same time, I was warned that there were certain risks attendant upon travelling with my wife in a country that was still in rather an unsettled state after the war; these of course had to be accepted. I may say here at once, that, owing to this kind action on the part of the Governor, I never experienced the slightest difficulty with any natives during the whole time I travelled in this region, and it might well have been otherwise!

Thus, the many arrangements having been completed and the varied stores and provisions packed into fifty-six-pound loads ready for the " safari," we boarded the special carriage put at our disposal by the kindness of Captain Camus and were on our way to Gottorp, where the first gang of carriers were to meet us.

The Kigoma-Tabora line, which was completed in 1912, comes out on to Lake Tanganyika through one of the few breaks in its eastern ramparts. As we travelled along it, we were struck by the neatness and finish of the permanent way; the metals being beautifully laid, mile after mile. Where there was a straight stretch of several miles, one looked along the converging lines of gleaming metals without a break to mar their exactness—beautifully done and in sharp contrast to other African railways that I know. The stations too were trim but solid buildings. This pleasing effect was no doubt due to the finishing touches put to the railway by the Belgian engineers, who have been busy on it ever since its partial destruction by the Germans in their retreat. On this account I was extremely glad to hear of the decision that the Belgians are to have an interest in it, in the form of a special freightage and I believe other advantages. Leaving Kigoma at half-past four in the afternoon, taking with us pleasant memories of the kindness and hospitality we received there, not to mention several kinds of cooked and uncooked food showered on us for the journey, we arrived at Gottorp about ten o'clock in pitch darkness. After unloading our baggage by a dim lamp held by a little Belgian, we were faced with the prospect of a rather uncomfortable night, perhaps in some out-house or other, as the station building appeared to be unlit and

forbidding. However, we stood and waited with our boys and baggage around us for the little soldier with the lamp, who was busy talking to the engine driver. His talk was soon over, however, and his little bright face turning to us asked us in broken English to "step this way" and he would make us as comfortable as possible, and telling us he had had a message by telephone from a friend of his in Kigoma to expect us, and that he had some hot coffee ready. Before we left Gottorp we were fast friends with this little man and a more delightful companion I never wish to meet; nothing was too much trouble; he would insist upon doing everything, and made us thoroughly at home in his best room. Perhaps one day "Petit Albert" may read this and know how much we appreciated his kindly nature.

On the other side of the Malagarasi River are the Gottorp salt works, and a large factory erected by a German company for the evaporating process. There are several salt springs on the concession but the only one in use is found to be sufficient to meet the present demand. The brine is pumped into reservoirs and then run off into shallow boiling pans to be evaporated. The demand, which is increasing, for this fine white salt is already extensive, and a very handsome annual profit is made. Although at this time it was in the hands of the Belgians, it has, I believe, to be handed over to the original German concessionaires.

Whilst waiting at Gottorp for our porters, it was necessary to start to train the four raw natives whom I had engaged as insect collectors. I had attempted to train two such during my stay at Kigoma, with the result that I lost both my nets and cyanide bottles in the complete disappearance

¶ The Gottorp Salt Works. The Evaporated Salt can be seen standing in heaps ready for packing into the long leaf-covered packages which can be seen on the left.

¶ One of the huge Fishes which are common in Lake Tanganyika. This one probably weighs 150 to 160 lb.

¶ Wa-bisa Women from the borders of the S.E. Congo. White and blue beads are threaded into their hair. The two women to the left have miniature tin cups inserted in the holes in their lips in place of the usual wooden discs.

of the two men, after I had sent them off collecting. They may have eaten the cyanide—thinking it was jam—for all I know (and I hope so), but I have a shrewd idea that the explanation lies in the attraction fishing has for all natives. They were in all probability induced by their smaller relatives to use or lend out my butterfly nets to catch whitebait in the harbour, result: torn nets and bad consciences. On this occasion I took good care to get the boys away from their homes before I gave my nets and bottles over to their tender care. They were Swahili natives and an unpromising medium for inoculation with the collecting germ. After many weeks' patient training I had two passable collectors and then only on the ticket system, i.e. giving them a ticket with thirty spaces, one space for each day of the month, so that on days that they worked well they would have one space marked, and on days when they were lazy or spoilt the insects by careless handling no marks at all. So we got along, but I never made anything of the other two, and just when the two best boys were becoming thoroughly proficient, they wanted to go back home and I had to set about instructing others. The patience of entomologists is proverbial, of course, but still there are limits and I often reached it with my "bug-boys."

Not finding much of interest entomologically at Gottorp, and our wild Wahá porters having turned up from Kasulu that evening, we prepared to set out the following day for our long march to Lake Kivu and the land of the Pigmies. In the morning I lined up our fifty porters for their rations (or in the Swahili language "posho") and liked the look of them at once. Like my old friends the Awemba of south Tanganyika, whom the Wahá closely resemble, they were

of fine physique with good features and laughing faces. Dressed simply in loosely hung goat skins, spear in hand, they were the best type of savage man—" half devil and half child." I got on splendidly with them from the first and as we were travelling to their homes in the mountain district of the higher Malagarasi, they shouldered their loads with light hearts to the accompaniment of blasts on a cow horn. We now said good-bye to " Petit Albert " with much regret and many hand-shakes, facing the future with light hearts, whatever might befall.

As really so much depends on one's cook and personal boys in Africa, and as we had selected them with some care out of many applicants at Kigoma, I will give a short account of them. There were three, one always miraculously neat and clean under all circumstances, even though he slept in a cow-shed or on a mud-heap ; how he managed it no one ever knew. Occasionally one meets white men who have the knack, usually fair-haired men, but I may say at once I have not this knack, for I'm usually the untidiest man in the " safari." This number one was a Muganda boy from Kampala, very intelligent, plucky, short, fat, rather light-skinned, always glum, with no sense of humour at all, good at cooking, waiting at table or anything else, Such was my " boy " Salim—a great lad ! He thought himself a cut above anyone else in the " Safari " and undoubtedly he was.

Next came Amerikani, my wife's " boy." He had a great deal to recommend him excepting his face, for he was most frightfully ugly, with the appearance of having had his face trodden on when a child, but happily it was a merry face with a laughing twinkle in his piggy eyes. He was a

Congo native from the Lukuga River, of medium height, lean and hungry but full of frightful energy, instilled into him no doubt by a former Belgian mistress for whom he worked in his youth. He also was a good cook but a better "dhobi-boy" (washerman). Salim and he never agreed on any subject!

Then lastly came the cook, who was always last and the worst cook of the lot, unless he was thoroughly roused from his usual lethargy by dire threats, and then he could be really good and produce tasty dishes out of nothing at all. He had the knack of starting to cook a meal at the last moment, with the result that anyone paying a visit to the "kitchen" just before meals would find him surrounded by a multitude of pots, pans, plates and cups, thrown down anywhere in his hurry to make room for other things he was preparing, and food, feathers, peel and every other kind of imaginable article lying around in disorder. The cook's name was Masambuka, a Muganda boy, always lazy and always dirty. There you have them—an inconsequent band of happy-go-luckies, with much that was likeable about them.

CHAPTER III

AMONGST THE WAHA AND BARUNDI—UP THE VALLEY OF THE MALAGARASI TO LAKE CHOHOA

Fifty or sixty heathen souls with half a hundred loads—
A gibbering, dusky throng that rolls along the Northern Roads—
A tattered hammock, and the rest—we know it, stick and stone,
We who have left the pleasant West in yearning for our own."

The Caravan. Verse I.

AS our caravan needed some adjustment as regards the work to be allotted to each individual, etc., a short trek of only a few miles was accomplished on the first day, to an abandoned German station named the Rushugi Post. It is usual on a lengthy expedition such as I was making to have a white subordinate to help in these matters, but we had none, so that the task my wife and myself set ourselves was no light one. To begin with, there were from seventy to eighty people, all very hungry, who had to be fed and at times their ailments attended to. There was the packing and unpacking of loads and selecting of suitable camp sites; there was the water and wood supply to be seen to; the native insect collectors to be sent out in the most favourable directions, their killing bottles, boxes, pins and nets to be attended to and their and our captures to be put away each night and notes made concerning them, and a diary written up; added to this there were photographs and kinematographs to be taken and developed and attention given to the apparatus and accessories, also there was the correspondence and posting of insects and films to England. In the dry weather all was plain sailing, but on approaching

the equatorial regions where a more or less heavy storm was an almost daily occurrence, these tasks became very burdensome to both of us; this was especially the case with the evening work of "papering" the insects. In regions where the insect-fauna was very rich, as many as one hundred insects had to be put in envelopes after a long and tiring day, and notes made about them, frequently occupying me far into the night. The heat, mosquitoes, sandflies and other pests were then very trying, taxing one's patience to the utmost.

The foregoing and other particulars which I give later on in this book, will enable the reader to gain some idea of the work that was before us as we left civilisation behind and proceeded on our way up the valley of the Malagarasi. This river, which has many sources in the high mountain ranges of the north-eastern littoral of Lake Tanganyika, sweeps round in a great curve and after draining the low-lying marshes north-west of Tabora, crosses the Tabora-Kigoma Line and flows into the lake some twenty-five miles south of Ujiji. For two days after leaving Rushugi we passed through a dry, stony and uninviting country until we reached the plains bordering the Sabaka River, the haunt of large game of many kinds and an abiding place of many lions and tsetse fly. The banks of this river being well wooded with tropical foliage, I stayed to collect for two days and then pushed on to Kasulu "boma,"* a matter of six hours. As the track here was well padded down, this was one of the few occasions on which my wife was able to use her bicycle, which was fortunate as the day was an intensely hot one,

* "Boma" is a Swahili word meaning "fort," "stronghold," "fortified camp."

and the way long and "fly" infested. One of our wild Wahá porters accompanied her, to whom a bicycle was a great novelty. This black gentleman amused us considerably, for he would insist on holding her back wheel whilst my wife mounted. Being unaware at first that the wheel was so held, she was astonished to find that her bicycle would not go when she got on, but when she got off to look nothing appeared to be wrong. This sort of thing occurred once or twice until, happening to look round sharply, she discovered the native holding on like grim death to the back tyre, while she attempted to start off in the usual way.

Towards evening, very wearily, we mounted the steep ascent to the Kasulu fortress. The first view one gains of this astonishing structure from the ridge to the south gives an impression of unreality, especially when one sees it at a distance with the sun behind it; one expects it to fade away into the mists of the valley from which it rises. Built in white-washed cement and stone, like a mediæval castle, on a prominence which rises abruptly from the surrounding country, it embodies the German military method of colonisation. In direct contrast to these imposing structures which may be found throughout late German East Africa, are the unpretentious, often homely, "bomas" to be found just across the boundary in Northern Rhodesia or Uganda, telling of a more paternal and withal more fearless method —in other words the British method—that scorns to build even so much as a palisade against attack.

Kasulu, which is in the Ujiji district, was at the time of our visit one of the principal centres of supply for the Belgian army of occupation stationed at Ujiji and Kigoma. Mr. Pieters, who was the officer in charge, was in the habit

of sending down large drafts of the big horned cattle every month to keep it supplied. The native soldiers under him were a smart lot of men, and as they were in full dress for inspection one morning, I " took " them on the kine-camera, also a " mob " of the big cattle. We spent three days within the castle keep, while I collected round about. Not finding much of interest, however, we were soon away again and saying good-bye to our hospitable friends. They had given us many good things and helped to map out my future route.

We were now at an elevation of about 3,600 feet above sea level, and having left the low lying central basin of the Malagarasi and its " fly " infested bush behind us, were journeying through the high, down-like mountains that enclose it on this side. As Mr. Pieters described it to us, the country gets " worse and worse " or rather, more mountainous and still more mountainous the farther north one goes, until it culminates in one of nature's greatest efforts, the Virunga or Mfumbiro volcanic range, north-east of Lake Kivu.

The country through which we were passing was under the sway of a Watusi sub-chief (or " chef-lieu," to use the French word) named Kalimba, who is responsible to, and placed there by, the King of Ruanda, into whose country we had now entered. The high downs on either side of us were dotted with small farms and banana-groves, enclosed by hedges of dwarf euphorbias and caustic milk-weeds. The soil hereabouts, and as far as the Malagarasi River, is of a deep rich red colour overlaying a solid ironstone formation, and supports a very rich pasture of short grass on which the numberless herds of large horned cattle wax fat. Before

reaching the higher waters of the Malagarasi our road took us over a high ridge to a place called Baira, where we found a large native market in full swing—a market made by the natives for the natives, all of whom were out-and-out savages and very interesting to watch. There must have been quite a thousand of them; clothes were conspicuous by their absence; dilapidated European hats there were none (a sure sign this, that you had got away at last from the beaten track) and they were bartering such a varied collection of things that a list is worth giving, if only as an indication of the richness of the country. There were sheep, goats, chickens, eggs, butter, milk, bananas, banana-beer, baskets, beans, bark-cloth, palm-oil, native soap (made from palm-oil and burnt banana skins), sweet potatoes, tomatoes, flour, dried and fresh beef, goat, sheep and cow hides, monkey-nuts, salt, gourds and native pottery. There were many other things too numerous to mention. We bought chickens, eggs, butter, beans, monkey-nuts, and a large quantity of food for the "safari," brought in by Kalimba's son.

The following day's march took us down to the banks of the Malagarasi River where we camped, after passing many miles of rich undulating open country, thickly populated and well watered by perennial streams.

On crossing the Malagarasi into the Urundi district the country changes somewhat. The scrub is of a sturdier growth and large stretches of bamboo are met with and game is again plentiful. The red soil is replaced by one of a greyish colour and more friable in texture. The purple veronica here assumes tree-like proportions, forming miniature forests of great beauty, and just before reaching Kihofi we passed the largest forest of wild bananas I have ever seen.

Kihofi, where it was necessary to obtain fresh porters, a most uninviting place in itself, nevertheless stands facing the most wonderful mountain scenery, which forms the escarpment of the Nkoma plateau. We had seen these imposing buttresses from afar and now knew that we had arrived at the beginning of Mr. Pieters's " worse and worse." What the end would be did not bear contemplation. Kihofi is a post of minor importance and is probably abandoned ere this, but it proved very useful as a stage on our northward journey. Having called on the " sous-officier " to make myself and my work known to him, he very kindly asked us to dinner, which contrary to the usual Belgian meal was the worst we had ever attended, his cook's " steak-Americain " nearly laying us out flat. Now " steak-Americain " may be all very well if put up by a good chef in Europe or America, but in a country where tape-worm is endemic and cooks never clean, this dish was something to shun like the plague ; moreover it was smeared with raw eggs which put the finishing touch in more ways than one. I am sorry to say that after saying good night we were thankful to get outside and escape to our camp.

After waiting here two more days, our Barundi porters came in and with them " the smell." This smell of rancid butter and cow's urine was never to leave us night nor day for many weeks, and eventually permeated everything we had, including our beds. Now, as is well known to all Ruandaites, both the Barundi and the Wahutu are cattle-mad ; they have no money but cattle, and like misers and their gold, they will die for them if necessary. The two races (under the despotic rule of the King of the Ruanda who may be said to have a claim on all livestock)—are the

owners of countless thousands of cattle, and the be-all and end-all of their existence can be summed up in the one word—cattle. They will eat it (any part raw or cooked, including the hide), sleep it, sing it, steal it.

In spite of the beef they eat and the milk they drink the Barundi natives, unlike the Wahutu of the Ruanda, through some physical disability or degeneracy have no stamina and are quite unable to do any hard manual labour. They were tried by the Germans on railway construction with disastrous results. Many died and the rest ran away, taking with them all the telegraph wire they could lay their hands on, to make into anklets and bangles.

So much for the Barundi who composed our new caravan ; so many smelly devils with low types of countenance and nasty ways, not a square yard of cloth between them but each carrying a long spear.

The first day out from Kihofi took us up the bare face of the great Nyakasu escarpment which had threatened our path for so long. Next to the Virunga volcanoes and the Ruwenzori range this proved to be the stiffest ascent we were to encounter on our travels. It brought us up on to a high grassy plateau where the air was so intensely invigorating that fatigue was forgotten and movement became a positive delight. The view was so extensive and of such a beautiful nature—fold on fold of grassy downs and ridges in a sea of blue haze—that I for one felt that I stood on top of the world and gazed over its edge. From this small plateau we made a gradual descent along its northern extension into the Nkoma Mountains where we camped for the night by one of the numberless sparkling burns that intersect this wonderful country in all directions. These streams,

although one of the most delightful features of Burundi, hide the satyr's face of Africa behind the smiling mask, for the Barundi have the disgusting superstition that their dead must be placed in a running stream, under a waterfall for preference, to allow their spirits to be carried away on its waters. Thus, almost all the rivers are polluted in this way and the utmost care has to be exercised in obtaining and boiling the water for drinking purposes. We continually saw skulls and bones lying about and always close to the river beds. We were unable to account for this, until one day when out collecting butterflies I came on two gruesome bundles tied up in rotting mats and bark-cloth, with parts of arms and legs poking out, placed beneath a pretty waterfall. I then made inquiries and elicited the foregoing facts. I lighted on another of these gruesome objects in worse case farther along our way and the combination upset us for many days; it was difficult for imaginative white people to disassociate the washing-water or hot tea (although we drank coffee continuously after this), from the thought of what might have been reposing in it.

On nearing Kitega we crossed over the watershed from the Tanganyika region into that of the Victoria-Nyanza Basin. Across the same treeless wind-swept downs and ridges but characterised by no typical mountain range to mark the divide.

At Kitega, which the Belgians have made their centre for the administration of this portion of late German East Africa, we were received with the utmost kindness (in the absence of the Resident), by Mr. Gernaert-Willmar and were given a just-completed office building in which to make our quarters. The village—or town if you may call it such—

was a place of some consequence to the Germans, as it contains, apart from one of the huge German fortresses, some good stone residential buildings. The Belgians have still further improved the place by the addition of the fine building which we occupied. Glass being unobtainable, mica squares were used in the construction of the windows, obtained I am told from the mica mines near Karema, on the south-eastern coast of Lake Tanganyika, at a cost of fifty centimes per square of eight inches by five inches. Kitega, which overlooks the higher Ruwuwu (or Ruvubu) Valley is now connected by a good motor-road, through the intervening mountainous country, with Usumbura on Lake Tanganyika and is situated some third of the way along the old caravan route to the Victoria-Nyanza. As it stands at close on six thousand feet above sea level the climate leaves nothing to be desired and the nights are cold.

The Independence of the Belgian Congo being celebrated on the twenty-first of July, the Belgians took advantage of the first occasion of the celebration of this fête in late German East Africa, by organising an enormous gathering of the native inhabitants from all parts of the Ruanda and Urundi. This proved a great success and resulted in a week's festivities, enlivened with dances, gymkanas and the drinking of much banana-beer. From photographs shown me by the Belgians at Kitega and judging by the fact that there were upwards of twenty thousand natives and all the big chiefs of the two districts present, the spectacle must have been an imposing one. The native military band known to many as " the latest Belgian atrocity," was sent up from Kigoma and no doubt helped to enliven the proceedings still more. The Resident killed two birds with

¶ Baskets of various kinds for sale on the Native Market of Baira. The closed baskets are for storing grain, the round open ones for sifting and carrying it.

¶ The Fortress of Kasulu, in the Urundi District. Built by the Germans, and about to be completed when war broke out.

¶ The Author "taking" a Native Dance with the cine-camera.

one stone, for towards the end of the festivities he assembled all the chiefs in the court house and gave them a few lessons on their new duties under Belgian rule.

That we arrived a week too late for this unique display is a matter of the greatest regret to me, for the opportunity to take moving pictures of such an event is never likely to pass my way again.

We were late in getting away from Kitega with our new lot of porters, and perforce had to travel to the Mugera Mission, our first halt, in the heat of the day. After the dusty track and the really stiff climb up to this Mission station, we were delighted to reach the shade of the many beautiful trees planted there. Mugera, which stands on the summit of a mountain six thousand five hundred feet high, is one of the oldest missions in this part of the country, being established there by the White Fathers as far back as the year 1900. The Fathers, always such delightful people, gave us a hearty welcome, all the more so because we were the first visitors they had had for many months. There were four Fathers and five Sisters at this Mission, presided over by a bright-eyed Father-Superior named Bonneau, with whom we became fast friends in a few hours. The following morning after taking photographs we were as usual provided with the best they had in the way of fresh food, which included in this instance oranges and two fat domesticated rabbits, and so we passed on, carrying with us that jovial "well met" kind of feeling, the secret of which "Les Pères Blancs" seem to hold.

We made many friends amongst the Belgians and the last on the list, Mr. Gernaert-Willmar, the "Administrateur" of Kitega, rather felt his responsibility regarding my

expedition travelling through his district. There being a lady in the case he wished to make our journey as safe and pleasant as possible, and so hit on the brilliant idea of putting the commissariat and other arrangements for our "safari" to Lake Chohoa in the hands of a very smart black corporal from one of the Congo regiments. Knowing the country well by reason of his having been through it during the war, this soldier was in jail for some offence: stealing a goat or something of the sort—so Mr. Willmar decided to let him out and reduce his sentence on the understanding that he did well for us. I was to report his behaviour on reaching our destination. This arrangement worked very well, the corporal doing everything in his power to procure good guides and porters and to keep the whole "safari" well supplied with foodstuffs from the local sultans *en route*. He took especial pains that we should have a good daily supply of fresh milk. Therefore, the day after leaving Mugera we were not greatly astonished when the milk supply was heralded in by two cows and a calf being driven full tilt into camp, and "operations" begun on them close to our tent. Much to everybody's amusement and to the great danger of camp furniture, "operations" consisted of firstly catching your cows and then with gentle persuasion inducing them to give their milk by fanning away the flies and rubbing their backs. The calf of one of them had died, causing her to be very refractory in consequence, only being brought to reason by giving her a sight and smell of the skin of her dead offspring stuffed with straw. With this weird specimen of native taxidermy the owner followed her, making a clucking sound at intervals, resulting in the comforting of the cow and inducing her to stand quietly to be milked.

Most of the Belgian officials when travelling in the district carry a big gourd or demi-john with them, which they have filled with milk in the morning and carried on the head of a porter. The milk, which is very rich, is partly churned in this way, and towards evening it is only necessary to give the vessel an extra shake to obtain a good quantity of butter. We, however, could never get milk in sufficient quantities to do this, as the Barundi will only part with fresh milk under pressure, preferring to let the calves have any surplus over and above their daily wants.

Like the Wahenga of Lake Nyasa, the Barundi become immensely attached to their cattle (and no wonder, as they are such fine beasts), but also like the Wahenga they carry this liking a bit too far for the European, by using cow's urine for cleaning out their milking and other utensils.

Arms are carried, but seldom used, in this part of the country, either for defence or sport. That they would be wanted badly and in a hurry or not at all, was the thought that came to me as our caravan wound in and out through the steep passes and over the ridges of this treeless country. For capping many a ridge were to be observed groups of truculent-looking savages, leaning on their long spears. As a matter of fact the Barundi are a very peace-loving people. Yet sometimes (as was the case not many months ago, when the Belgians had to execute a Watusi chief in this self-same district for the murder of some forty people, including two mail carriers) it would seem as if, under the rule of an unscrupulous Watusi sultan, they might prove very dangerous to travellers through their country.

In this case the natives, I think, were more interested in us than badly disposed; we were in any case well

armed with five rifles, and a load of ammunition, not to mention our two policemen.

As mentioned previously the Barundi do not make good porters; thus it was that the fourth day out from Kitega, and having crossed the Ruvubu River, we had to obtain a fresh lot to take us on our way. To ourselves, as well as the carriers, these long steep-sided downs became very fatiguing; so as a rule we made camp at midday, spending the afternoon in collecting insects and recuperating for the following day's trek. My collecting boys were now, after a month's training, beginning to prove useful and often brought me something new and interesting, anything good being rewarded with a small amount of tobacco as an encouragement. Thus the days passed in hard physical exercise which toughened our muscles for the many hundreds of miles we had yet to go, and presently brought us to Lake Chohoa, within the boundary of that highly interesting riverine district situated directly between Lake Kivu and the Victoria-Nyanza.

Before closing this chapter, however, and for the information of would-be travellers in the region we had just traversed, let me offer a note of warning to anyone attempting to pass through Central Urundi in the rains. Nothing more inhospitable or depressing can well be found than these vast and monotonous steppes in the rainy season, and to be caught in a heavy storm on the summit of one of these great wind-swept downs, away from shelter of any kind, might well lead to disaster. The only time to make the trip is between the months of May and August, and then the help of the Government is necessary or one is indeed likely to find oneself stranded without a single porter, all having disappeared in the night.

Kitega, the administrative centre of Barundi. Another great German Fortress can be seen in the background.

Mugera, a mission station of the White Fathers.

¶, The Author's Wife, Msinga, and Lieutenant Defawe. Standing behind the Sultan will be seen his two eldest sons, wearing fez caps. With the exception of the little man who stands close to Msinga, and who is a Batwa (or forest-dwarf), all are the aristocratic Watusi who are described in this Chapter.

CHAPTER IV

LAKE CHOHOA AND THE RUANDA—THE WATUSI AND THEIR KING, JUHI MSINGA

" Hemmed about by swamp and bushland, barriered by mighty lakes,
Dwelt the Benangandu Chieftains in their tangled, matted brakes—
Autocrats who swayed their people not by knife or fire alone,
Not alone by mutilation or the sacrificial stone,
But in virtue of their Kingship—Chieftains to the very bone."

The Crocodile Kings. Verse I.

WE had now reached that unmapped region of small lakes which lies between the Akanyaru and Kagera Rivers. So little known was it at the outbreak of war in 1914, that the Belgian army in its advance from the north two years later, being without a map to go on, completely lost itself amongst the many ramifications of these lakes. The Germans themselves were in no better case, with the result that the two forces became engaged in a game of hide-and-seek to find the best way out of it. Our friend, the Italian Father-Superior of the Kaninya Mission on Lake Chohoa, had the novel experience of entertaining, on the same day, first the German commanding officer and then a few hours later the Belgian commander, neither aware of each other's proximity or the whereabouts of the force which each opposed. I don't suppose that either officer will ever know that they nearly butted into each other, unless they happen to read these lines.

For some weeks past I had been very doubtful of the accuracy of the Ordnance Survey (1916) maps of German East Africa that I had with me. I now found out how absolutely wrong and misleading they were. I trust that

it is not too much to hope that the Belgians, who now have command of the country and are not likely to forget their experiences here during the war, will carry out a well-organised survey of this interesting region.

Lake Chohoa, in conjunction with the larger lake of Mohazi, may be considered as the submerged part of a valley without an outlet, which would account no doubt for its dearth of large fish, for the largest fish to be found in this lake does not exceed five or six inches. There are hippo in the north-eastern extremity, which they seem to favour, but no crocodiles anywhere in the lake. Water-fowl are abundant and the pythons both here and in the papyrus swamps of the Akanyaru assume huge dimensions and are very commonly seen. A large specimen killed by one of the Fathers, who showed me its photograph, measured twenty-three feet eight inches long with the exceptional circumference of thirty-nine inches; the Father assured me that this monster was so old and sluggish that the native children from a village near-by were playing around and patting it when he arrived on the scene. The Barundi have a strange superstition regarding these animals and never kill them, believing that to do so will bring down vengeance upon those who do, by all their children becoming sterile.

I was once privileged to witness some years ago on the Luangwa River in Northern Rhodesia, a fight between an adult male bushbuck and a heavy nineteen-foot python. How, if the python had come off victor, he would have managed to swallow the bushbuck is hard to surmise, for the circumference of the antelope's body was about four times that of the python's mouth. Personally, I am of the opinion that the great snake, in a rash moment induced by hunger,

had bitten off rather more than he could chew. When I came upon the scene, attracted by the commotion in the grass, the bushbuck was exhausted with its struggles but not crushed, and judging by the flattened grass all around, the fight had been going on for some time. The python had a firm grip with its teeth of the fleshy part of the buck's leg, from which blood was flowing and had freely sprinkled the grass round about. The bushbuck had escaped so far owing to the fact that there was no tree or bush within reach on to which the python could get a purchase for the squeezing process—this I put down to the instinct of the antelope who had seemingly manœuvred away from them. Neither the one nor the other took any notice of me as I stood and watched, completely fascinated by the sight. So the struggle went on, the python continually flopping the heavy part of his coils over and around the bushbuck, which lay sideways on the ground; the buck, however, always managed to slip away from beneath them. As I had had a long and tiring day elephant hunting and was still many miles from camp I had perforce to leave, so I set the bushbuck free by shooting the python—the plucky little beast limped away in sorry plight but with every chance of recovery.

From what natives have told me, also borne out by my own observations, I am of the opinion that a python first attracts the curiosity of its prey by wriggling the end of its tail in one place, then striking with its head and throwing the weight of its body on the unsuspecting prey from behind. The "fascinating" or "hypnotising" theory is all very well for birds and some of the small mammals, but there is no hypnotising of such redoubtable opponents as bushbuck or the larger ichneumons or civets—it must therefore

be some such sudden onslaught as the one I have suggested.

Entomologically I found the neighbourhood of Lake Chohoa very interesting but as I arrived there at the end of the dry season when insect life is more or less dormant, I did not succeed in making so good a collection as I might otherwise have done. As the regions through which we had now passed—rather contrary to expectations, I admit—had not proved very rich in insect fauna, I decided to reach Lake Kivu with as little delay as possible. To this end I paid off our old carriers and with the help of the White Fathers obtained a fresh lot of men to take us to Nyanza, four days' journey away, the residence of Juhi, Sultan of Ruanda. Having arranged the day previous for canoes to be in readiness at the crossing of the Akanyaru, we turned due west from Kaninya Mission and reached the east bank of that river as the first storm of the rainy season was about to break. The Akanyaru River, which here flows south to north through a hilly country covered with sparse bush, joins the Kagera below Kigali and is overgrown on both banks by many square miles of papyrus beds, through which our caravan pushed its way with considerable difficulty. Heat, engendered by the fermenting morass below and the sun above, became very trying to the temper, especially so as the bent papyrus stems were either tripping one up or poking into one's ribs. Clear water was presently reached but proved to be no more than a breathing space sixty yards wide at the outside, after which we again had to plunge into the fevered swamp. After a while we came through and mounting the high west bank, were able to look back over the sea of papyrus through which our carriers were still

¶ A Watusi Native makes a 7 ft. jump over the Author's wife and a light cross-bar placed in position above her.

¶ From Goma, looking along the volcanic northern coast of Lake Kivu. In the distance can be seen a line of small volcanoes. The small lake in the foreground partly covers the crater-floor of an extinct volcano, the side of which has been "breached" towards the lake.

A Barundi Herd Boy.

A Watusi Chieftain.

struggling cheerfully. The following day we reached another Roman Catholic Mission called Isawi, where we were very kindly put up for the night. Here my boy, Salim, was taken very ill with pneumonia, and as we wished to push on to Nyanza he had to be left in the Mission hospital meanwhile.

After leaving the short mountain forest, or scrub to use a more appropriate term, of the Akanyaru Valley, one ascends again to the steppe region on its western side, in every respect similar to that through which we had been travelling, north of Kitega.

We had sent on word to the Belgian "Chef de Territoire" at Nyanza, notifying him of our expected arrival that day but we were quite unprepared for the reception that awaited us. Towards three o'clock in the afternoon, having accomplished the twenty miles' trek that separates Isawi from Nyanza or "Niansa," we arrived—dressed in our oldest and shabbiest attire—in front of the "boma," expecting to find only Lieutenant Defawe, the official in charge of the district and adviser to Msinga. Lieutenant Defawe was certainly there and he came out to meet us but with him were the Resident, Major van den Eede, two judges of the High Court, Messieurs Delauney and Vos, and a "Procureur de Roi" whose name I forget. We were delighted to hear that they had kindly waited lunch for us, to which we did ample justice, for we were fearfully hungry after the long march. It turned out that they were adjusting war compensation cases. They all proved to be the happiest of companions, so we spent several merry evenings together.

The day after our arrival we were to meet Sultan Msinga, King of the Watusi, so before I go further it would be as

well to give my readers an outline of the history of this singular race, of whom Msinga was the chief representative.

Broadly speaking the Ruanda (when speaking of "Ruanda" I mean the Burundi district as well) is inhabited by two classes of negroes, namely the Barundi, Bahutu and dwarf Batwa, who are the slave tribes or working classes; and the Watusi, who are the aristocratic or ruling class which never works. The Watusi are a tall race, many of the men being seven feet high and even more. They are the original conquerors of the country and came down from the north, most probably being contemporary with the coming of the Masai to East Africa, bringing with them the forerunners of the countless herds of horned stock to be found in the Ruanda to-day. Hamitic in origin and of the same stock as the Bahima of Uganda, these natives present a most graceful and dignified appearance and moreover possess the rare qualities of honesty and truthfulness, so seldom found amongst the inhabitants of Africa to-day, with high foreheads, oval faces, and clean-cut features of Egyptian cast. We never tired of watching them. To see a group of these fine fellows talking and laughing together was a real pleasure, which could never be the case with the snub-nosed Bantu tribes. Other points of interest about them were their beautifully shaped hands and feet and their satiny skins, often bronze in colour. Their hair too, although typically woolly, is given special attention, being coifed in bizarre though symmetrical patterns, often with a comb stuck in it or a single string of pearl-beads through it or round it, giving them the smartest appearance. As most of them are extremely tall and well proportioned, their diet

of bananas and milk, of which they eat and drink inordinate quantities, would seen to be the ideal food.

Conditions have changed very little in Ruanda since the country first became definitely known to explorers some thirty years ago. It still remains the greatest and one of the last realms to be governed autocratically by a negro king, whose word is law and who can command immediate and unquestionable obedience from any one of his three million subjects.

It is a thousand pities but nevertheless undeniable that this great domain must disintegrate before the advance of western civilisation. Even now signs of this are by no means wanting, for together with the Kabare district on the Uganda side it forms the richest cattle country in Africa to-day, and will be bound to prove of immense value to the world's food supply. The opening up of this rich country will, however, be retarded to a great extent by the fact that the Belgians (who have more than enough to manage in their own colony) hold it under mandate from the League of Nations. It is thus connected commercially with the west instead of the east coast of Africa to which it geographically and ethnographically belongs, and unless the railway projected by the Germans is carried into the heart of the district, either from Tabora or Bukoba, it may be some time before the Ruanda feel the menace of the outer world. In any event, and before long, the unsullied nature and untrammelled existence of both Watusi and Wahutu alike must fall before a yapping and intriguing throng of money-grubbers.

Now, Juhi Msinga* to give him his correct title, and the

* The meaning of Juhi is, metaphorically, the one who cannot cross the Malagarasi River or see Niragongo Volcano and live—an attribute of all the Kings of Ruanda successively.

policy he followed in the past, have many detractors. He has been described as heartless and cruel and is said to have done away with several of his brothers to obtain the throne. This is partly true, no doubt, but in those days it was a case of the best man wins and if he did crucify one or two robbers it was probably no more than they deserved. I have a shrewd idea that these stories are kept up by missionaries, who are chagrined at their non-success in Christianising the king and his Watusi subjects. I am given to understand the Government itself rather opposes this course, as Christianity means the abolition of polygamy, with the inevitable result in this case that the Watusi race would lose its power and break up the existing order of things which runs so smoothly, and which the Government have an interest in keeping alive. I personally hold the opinion that the missionising of the Watusi would completely spoil them, bringing many evils in its train.

Sultan Msinga, whose clan—the Bega—is the most feared amongst the Watusi, stands very little short of seven feet in height. Although at first his appearance is unprepossessing owing to his defective eyesight and protruding teeth, we found him intelligent and possessing the same likeable qualities common to all the Watusi. Towards the end of our nine days' stay at Niansa we got to know the man and his three strapping sons quite well, and our first impression of him still remains the same, that he has many amiable qualities and is especially amenable to good influences. My wife, being one of the very few white women he had seen, interested him immensely, and he never tired of closely examining anything she happened to be wearing, sometimes to the extent of embarrassment.

A Negro Millionaire

¶ Juhi Msinga, the Supreme Chief of the Ruanda, one of the greatest of African Potentates. His signature (and stamp), which are seen below, may one day be much sought after by Kings of Finance.

¶ The Audience Chamber of Sultan Msinga.

¶ The first photograph of Watusi Women to be published in England. Sultan Msinga in the centre; his mother has her face covered; the other women are the principal members of his harem, and all have their legs loaded with coils of fibre rings.

Lake Chohoa and the Ruanda

It is well known that Msinga's mother has a great deal to do with all matters connected with the upholding of the reigning dynasty; she is and always has been the "political wire-puller," no important step being taken without her advice. We were therefore interested and pleased to know that Lieutenant Defawe in conjunction with Msinga had arranged for us to make her acquaintance, together with Msinga's principal wives. Now, it will be found on reading books of travel by authors who have visited Niansa that none of them has even so much as seen a Watusi woman, let alone the Sultan's mother and harem; we were therefore accorded a privilege which has been extended to very few. The fact that these ladies had previously seen only one other white woman in all their lives, no doubt acted as an inducement to the breaking of their rule of seclusion.

On the day arranged for the visit, Major van den Eede (the Resident of Ruanda), Lieutenant Defawe, my wife and myself proceeded to the Sultan's enclosure, a maze of palisaded houses and compounds, through which we were guided to the bematted seraglio. These women practically confine themselves to dark and windowless houses, the one in which we found the mother and Sultanas being no exception, for it was darkened not only by smoke but with curiously-shaped mats directly across the entrance. After a few minutes, and when our eyes became accustomed to the dim light, we were able to make out the tall forms of five women squatting on chairs, who greeted us pleasantly with smiles and handshakes. The mother struck one as being exceptionally tall and graceful although elderly; her height was enhanced by a bead tiara, having two slender horns standing up on either side of the head, perhaps ten to twelve inches in length;

her legs were encased from ankle to knee in roll upon roll of plaited fibre rings, a good eight inches deep. The Sultanas were similarly ornamented but not to such an extent. As we could not speak their language and had to use Lieutenant Defawe as an interpreter, we got on very well considering, many questions being asked and answered on both sides. In return for the present of beads that we had brought along, we were now presented with four neatly woven little baskets at the making of which the Watusi women excel, but as these baskets are difficult to obtain and were the first that had come our way, this pleased us immensely. With many handshakes we now retired, glad to have had the opportunity of seeing the Watusi women, but glad, too, to get out of the stifling atmosphere within their hut.

Both Msinga and his adviser Lieutenant Defawe must have taken quite a liking to us, for they did all in their power to interest and amuse us during our stay with them. Having a cinematograph camera with me I expressed a wish to take some pictures of Watusi dances and sports, especially the high-jump, at which I had heard they could beat all records. No sooner said than done, and the word went round that on a certain day, Msinga required the attendance of his best dancers and young warriors to a dance-tournament. Both my wife and myself looked forward to the day with the greatest enthusiasm, feeling sure our friends the Watusi would do justice to the occasion. The day selected turned out to be perfect: sunny yet refreshingly cool at this six thousand feet altitude.

All was in readiness as we entered the great courtyard facing the Sultan's highly-arched residence—even to beer and cigarettes placed at our disposal by Msinga himself.

We took our seats and the word was given that the throng of natives standing without might enter the enclosure, resulting in a stream of two to three thousand natives pouring in and seating themselves on either side of it, forming, no doubt, a highly critical as well as a picturesque audience. All eyes were now turned on the entrance at the far end of the enclosure through which there presently appeared a line of Batwa natives, each carrying a long-handled hoe. The whole string of them having advanced to the centre of the arena, a dance began accompanied by a weird dirge, in which at intervals individuals left the line and throwing their hoes high in the air caught them as they came down—a highly dangerous proceeding to the uninitiated; this was the " Dance of the Hoes." Next on the list came a selection by the Batwa Drum Band, very good of its kind; here also at intervals some of the performers advanced alone and danced with their drums, man and drum becoming a species of human whirligig. As Msinga rather fancies himself as a drummer, he took a hand, giving us a solo. Then came the " star turn " and " danse de luxe "; every dancer a chief's son well trained, beautifully dressed in shining white headdress of long hair and white-tanned skin aprons neatly tasselled; and wearing metal rings around their ankles. There were twenty, perhaps more, and entering the enclosure danced towards us in perfect time. Then, lining up in two rows, to a weird wild melody sung by an old man and accompanied by the sound of their ringing anklets, they danced with that complete abandon and fierceness in which the heart of the real savage delights. These two dances ended all too soon, with a salute and obesiance to Msinga and the delighted spectators.

We now moved to a flat grassy space without the enclosure to witness a display of archery, throwing the lance and the famous high-jumping. Here my wife provided tea and cakes but this was a " wash-out " as far as Msinga was concerned, for he never eats in public.

Both the Watusi and Batwa are good shots with the bow and arrow, being able to hit a small mark at a hundred paces. Holding the bow diagonally in front of them and stretching it to its utmost by a forward and downward movement of the body, they let fly as the bow is brought down. The high-jump was the most interesting part of this entertainment, the Watusi who took part in it clearing with a straight jump a good seven feet six inches from a low " take off " of hard clay. After seeing this performance my wife had little hesitation in placing herself, when asked, beneath the cross-stick to be jumped over ; this was done with feet and to spare, also a jump was made over three natives standing in a row, one in front of another.

With some bouts of wrestling the day came to an end, and having thanked Msinga most heartily for the splendid time he had given us, we walked back to camp to attend once again to the packing of loads and to a hundred and one other things, in preparation for our march to Lake Kivu.

¶ The "Danse de Luxe" described in this chapter.

¶ The Sultan's Leading Singer, who provides the only melody for the dancing.

¶, A Watusi Bowman about to shoot his Arrow. Two Batwa (or Dwarfs) from the Bugoie Forests, near Lake Kivu, are to be seen standing on the right of the picture. Msinga stands, surrounded by Watusi Natives, behind the drawn Bow.

CHAPTER V

TO LAKE KIVU AND THE VOLCANIC REGION

" The song of the ships is far to hear, the hum of the world is dead,
And lotus-life in a drowsy year our benison instead ;
Why should we push the world along, live in a whirl of flame,
When the Pace of the Ox is steady and strong and the end is just the same ?"

BOTH Msinga and Lieutenant Defawe had been so kind to us that it was with genuine regret that our farewells were said on the morning of our departure from Niansa. We were, moreover, given a great send-off by the Sultan himself and the majority of his male relatives. Two of his own body-guard, under his special instructions, were attached to our " safari " as guides and escort.

Previously we had given Msinga as good a present as our means would allow, this being returned on his part by a gift of three pieces of fine Batwa pottery which were packed away with our other mementoes. Thus ended a memorable occasion, and we " hit the track " for pastures new.

For several years it had been my dearest wish to visit Lake Kivu and the wonderful volcanoes to the north, but up till now no opportunity had presented itself. So it was with the keenest pleasure that I set forth to cover the four days' journey to Rubengera on the eastern littoral of the lake, and at this time a small Belgian outpost situated about half way down its length. The country between Niansa and the summits of the Kivu watershed is drained by a swift river of good size named the Njawarongo, another affluent of the Kagera. The pasture of this valley is the

richest and closest I have ever seen, the district being noted for the immense white-horned red cattle it produces. Herds of these splendid beasts were frequently to be seen in charge of Wahutu herdsmen, wearing their novel rain-cloaks made of basket-work and banana leaves.

Overlooking the Njawarongo River stands a deserted German mission station, which we reached on the second day out from Niansa. A pretty place with good buildings, but like all abandoned homes in Africa very depressing even to the passing traveller.

The following day took us up the steep western slope of the Njawarongo Valley, and again on to the immense elevated downs that here mark the watershed between Nile and Congo. From here we overlooked the rift-valley or valley of the great lakes, with Lake Kivu far below us but as yet hidden from view by the twists and turns of the narrow valley down which we were making our way.

The Germans have gone to much trouble and expenditure of labour in making a graded road winding down to the lake, round precipices and over ravines, in a wonderful way. This road, although overgrown and in bad repair, was a great boon to us. One is quite astonished to find the cuttings and gradings so well done. It would indeed be possible with the addition of iron bridges and culverts to lay a light railway along it.

Lake Kivu, when we did see it—although only a few miles away—was so hazy that the lake itself and Kwijwi Island seemed to merge into the horizon. We had, in fact, been looking at it for some time without knowing it. Later on, however, as we descended to Rubengera this haze lifted; the lake changed from pale to a deeper blue and its many

islands and sharp promontories stood out clear and green in the morning light.

Rubengera, which is one hour-and-a-half's journey from the small bay of Msaho, held little of interest for us. Therefore after staying one night with some missionaries who had just arrived there, we pushed on to Murunda, seven hours' march to the north. This place we found to be a well-built mission, founded by the White Fathers and in charge of two black *padres*. It lies in the midst of fine mountain scenery and close to the southern extension of the Bugoie Forest, known locally as Kasiba.

For the past seven weeks we had been travelling through an almost treeless country, rich neither in flora nor fauna. The getting of firewood even was a continual source of worry, and used as we had become to the forest region, by many years' residence in it, we were more than pleased to see trees around us again and to know that this question was at least shelved for the time being. The fact that a large and unexplored forest stood close by, holding possibly rare animals and insects was, in our eyes, also an added attraction to the district in which we now found ourselves.

Owing to its inaccessibility, the Kasiba Forest has seldom been visited by travellers and bordering as it does the unknown country of the Bugoie dwarfs, was likely to prove interesting both entomologically and by reason of the fact that it was said to be the home of the Kivu gorilla and also what appeared to be (from a photograph shown me by a White Father) a new species of chimpanzi.

Deciding, therefore, to pay this forest a visit, I set about the task of finding guides. Still having Msinga's messengers with me this did not prove difficult; so leaving my wife

behind at the Mission I was soon on my way, accompanied by twelve local carriers.

After some hours I found myself climbing a stiff ascent to the summit of the watershed, along the ridge of which could be discerned the outskirts of the dense forest for which I was making.

Shortly after picking up the three Batwa guides we arrived, very short of wind, at the end of a sharp, bush-clad ridge; following this along, it presently brought us to a suitable camping place on the edge of the Kasiba Forest, and overlooking Lake Kivu. I contented myself for the rest of the day, after my tent was pitched, by collecting butterflies along the icy-cold stream near by.

Partly owing to the fairy-like meadows that are to be found there, this mountain forest proved to be the most beautiful I had ever visited. The reaches of feathery bamboo, the giant fern-hung trees, the open glades covered with the purple veronica and tall lobelia—these alone repay a visit.

Hunting in it, however, by reason of its steep declivities and thick undergrowth, is excessively tedious as I very soon found out. If I was to get a chimpanzi it was going to be a tough job.

The first day I drew a blank at all events, but had the satisfaction of hearing their calls for the first time. One call they make resembles that of the African hunting dog (lycaon)—or for those who do not know Africa, let us say a lost dog. It can be heard a long distance. The other cries are typical monkey noises, though louder, and are made when squabbling amongst themselves.

The following day my luck, so far as the apes were concerned, was no better, although it led me to the discovery

of their sleeping-places, which were made on the spreading branches of high trees. These were platforms of bent and broken branches and may be considered as the first rudiments of our present-day gigantic structures in stone and iron.

From information gained from my three guides (one of whom was a typical forest dwarf, more like a monkey than a man), and from my own observation, it was evident that there were no gorillas in this forest. The chimpanzi, or *Impundu* to give it its native name, was the only ape to be found here, as far as I could ascertain.

Knowing now which direction to take, the following morning I again set out. After a walk of an hour or more along a small track, where the bushes were still wet with the heavy dew, we passed a trap set for a chimpanzi (consisting of a running noose, surrounding a circular hole in the ground), which looked as if we were on the right road. This proved to be the case, for very shortly afterwards we heard the tell-tale, long-drawn-out call, "Woo-oo-oo-oo."

Having been warned by the *padres* at the Mission concerning a superstition of the Batwa in connection with their *totem* of this man-ape, I was not surprised that two of my Batwa guides suddenly left me and disappeared round a neighbouring thicket. However, I had still one left and determined to hang to him. Advancing in the direction of the sounds we struck the spoor of two of the animals. Their tracks being easy to follow in the soft loam, as well as being indicated by the broken bamboo shoots strewn on either side, we had little difficulty in coming up with them. But, alas for my hopes, I was discovered in the act of raising my rifle and Mr. Chimpanzi (the other I never saw) was off

into the thick brush-wood. I did, however, get a good look at him, which confirmed my opinion that this animal differed from the common variety. It struck me as being two or three times as large, of a reddish tinge, with thicker hair and a greyish fringe round the face.

As it was getting late and rain threatening I now made the best of my way back to camp. On arrival there I found a letter awaiting me from the Father-Superior of Njundo Mission, in answer to one of mine, telling me that " the best place to find both the gorilla and chimpanzi was in the forest near the Karisimbi volcano," some three days' farther north.

On the receipt of this news and as both myself and the native collectors had worked the forest pretty thoroughly for new insects, I decided to strike camp. Meeting my wife at a pre-arranged rendezvous, we passed through the broken and difficult country that here forms the eastern wall of the Great Rift, and late in the afternoon we stood on a high prominence above the Funda River, directly overlooking the Bay of Kisenji. The northern coast line of Lake Kivu, losing itself in its high western ramparts could only be dimly discerned, but on our right stood, definitely defined, the outlines of one of the little known wonders of the world, the three largest of the gigantic volcanoes which form the western portion of the great Virunga or Mfumbiro mountain range.

After camping for the night we were abroad at an early hour the following morning. We hoped for another view of the volcanoes, which we had come so far to see, but this was not vouchsafed to us, for the valley below was veiled in mist and not a glimpse could be obtained of them.

We made our way to the Njundo Mission, and arriving

there at midday were again welcomed by these jovial priests.

We were now at a most interesting stage of our journey, for this region, lying as it does midway between the Belgian and late German spheres, has a little-known fauna and flora, and much remains to be learnt concerning its topography; the last British scientific expedition of any note to reach this district was the Tanganyika Expedition of twenty years ago, under Mr. J. E. S. Moore, resulting in the two publications previously mentioned in this book. True, other travellers, like Sir Alfred Sharpe, have since passed through it but have written little or nothing concerning its more recent developments. Knowing this and although badly equipped for any pursuit other than that of entomology and photography, I was intensely interested in this region and determined to find out all I could about it in the time at my disposal.

The panorama to be seen from Njundo Mission, although not to be compared in scenic effect with that obtained from Rwaza or Ruchuru, is, however, very interesting as it includes the lake. The two great cones of Mikeno and Karisimbi, and Ninagongo with its shapely outline, being near to the spectator, stand out ominous and threatening. The cloud effects too, over the two active volcanoes of Ninagongo and Namlagira, are unsurpassable as seen from this Mission.

We spent three pleasant days with the Fathers. To look out from their veranda across the vast amphitheatre of lava-plain to the ever-changing effects of light and shade on the volcanoes beyond, was a never-ending source of delight to both of us. Our friends the White Fathers entertained us with many tales of the district; of the cruel doings of

the sultans of Ruanda, of the Great War and of pestilence and famine after it, when fifty thousand natives perished, of volcanic eruptions and earthquakes, of Kirschstein the German, and his attempt to scale Karisimbi, when thirty or more of his carriers were killed in a hail-storm; of elephants, man-apes and lions and the mythical "muga" of the forest dwarfs, resembling an enormous bear, of cattle and tsetse flies and the three-horned chameleon and hairy frogs.

These lava-plains by Njundo, which are dotted with small extinct volcanoes, are covered with a shallow deposit of very rich soil, producing the finest tobacco. From this the Fathers make some really excellent cigars. The dried leaves can be bought from the natives at a hundred for one franc. This tobacco is very popular with the Watusi, who will smoke nothing else. It has, moreover, been well reported on in Europe as suitable for cigar wrappers.

This same ground was disputed by the Germans and Belgians in the first years of the war, and both German and Belgian gun-positions may be frequently seen on the hills and craters round about.

After war had passed, came a bad famine through which forty thousand natives lost their lives in this one district. Then the Spanish influenza attacked these hapless wretches, from which they were just recovering at the time of our visit.

In connection with the war, the Fathers have a tragic but funny tale to tell.

As may be guessed, iron is a valuable commodity amongst these aborigines, and as might be expected after frequent gun duels between the Germans and Belgians, there were numberless pieces of broken shell to be found by ardent

searchers, and also unexploded live shells and shells dropped by scared porters in hurried flight. One such shell was one day unearthed by a wily Mhutu and after changing hands several times at varying prices, from a bunch of tobacco leaves to a goat, eventually found its way with other pieces of shell into the smelting-pot of a family of native blacksmiths.

This big shell they judged would make many hoes, axes and spears, and the melting of it was made something of an occasion by the blacksmith, who asked several of his friends to give a hand with the bellows. Now the smelting-pot of the Bahutu is similar to a gigantic earthenware jar, the required heat being generated by blowing on the charcoal through a circle of holes in the bottom. Round this they sat and all being in readiness, the shell and old iron were placed in position and the fire started. The family and friends now joined in and the five or six small bellows were soon blowing merrily away—when, whizz—b-a-n-g !

The second week of September, 1919, found us at Kisenji and maturing plans for the exploration of the western and central groups of the Virunga volcanoes and their immediate neighbourhood.

Kisenji, which I decided to make our headquarters, is in some ways the most beautiful and restful place I know, with just a touch about it reminiscent of the South Seas. Washed by the clear waters of Lake Kivu, buried in palms, gums, fruit-trees and flowers, it stands directly on the sandy foreshore, facing the blue mountains on the other side of the lake. The climate, owing to the high altitude of four thousand eight hundred feet above sea level, is perfect ; it is never too hot and never too cold. Mosquitoes too, and

wonderful to relate, white ants, are not to be found* here.

At the time of our visit the Belgians were thinking of making Kisenji the administrative headquarters for the whole of Ruanda and Burundi. A large house had in fact been built for the Governor, but I think these plans have since been altered and Busumbura, on the north end of Lake Tanganyika, will become the capital.

Before passing on to the next chapter, which contains details of the exploration of the volcanic region which I was about to undertake, it will be as well to give my reader some information regarding the Lake Kivu district from several points of view, both scientific and otherwise.

With a length of approximately sixty-five miles and thirty in breadth, Lake Kivu, the last discovered of the African lakes has this salient feature: that although its waters now flow into Lake Tanganyika and so to the Congo River, its fauna has no community of nature with that of Tanganyika, but must be classed with that of Lakes Edward and Albert and the Nile system.

To account for this, geologists tell us that at an earlier but not very remote period there was a water basin extending from Kivu north along the Rift valley as far as Lake Albert, and that the present formation of Kivu was brought about by a vast volcanic upheaval under the floor of this basin, forming the Ufumbiro or Virunga Range of volcanoes. This

* This interesting fact is to be explained as due primarily to the volcanic nature of the country. There is no standing water where mosquito lavæ may exist, the porosity of the soil carrying off all rain-water directly. The rivers, such as there are, are very swift, offering them no harbourage. The white ants are unable to find suitable soil, and owing to long continued volcanic disturbances in the neighbourhood, these pests have failed to find a footing.

acting as a dam, the waters of the newly-formed Lake Kivu gradually rose as the years went by, eventually overflowing to the south into Lake Tanganyika.

The second interesting feature of this wonderful district lies in the fact that Lake Kivu may be said to be the dividing line between the steppe region in the east and the forest region in the west ; hence we get primeval forests and grassy downs intermingled around its deeply indented coast and on its many islands.

North and north-east of the lake lies the volcanic region, bounded on the south by the waters of Lake Kivu itself, on the north by the Ruchuru Plains, on the east by the riverine district of Kabare and on the west by the western wall of the great Rift valley. The steep sides of these grand volcanoes and the surrounding ridges and spurs are for the most part clothed in thick forests, some of them of bamboo and quite impenetrable in places, but the lava-plains below, and the numerous small hummock-like volcanoes are covered with grass, short scrub and herbage growing on a shallow deposit of scoriæ overlying the solid lava. Owing to the lava flow, water is extremely scarce away from the few river beds : certainly in some places tiny lakes are formed in extinct craters, but these are far apart and not always on the line of march.

The district may be said to be fairly rich in flowering plants (the *Lobelia gibberroa* being one of the commonest) and shrubs (including veronicas and balsams). At the higher elevations about ten thousand feet and upwards, on the volcanoes themselves, lobelias, senecios, ericaceæ, everlasting-flowers and beard-moss occupy the landscape to to the exclusion of all else.

Insect life is not over-abundant anywhere in close proximity to the volcanoes, but the Bugoie Forest is fairly rich entomologically. However, owing to the continual cold mists which rise from the lake and collect on the mountain forests, it is not so rich as one is led to expect from the wealth of plant life.

Animal life in general, including the fish fauna, may be said to be nowhere over-abundant in the region of Lake Kivu. The crocodile, for instance, that terror of African waters, is entirely absent from the lake, so bathing can be indulged in with impunity, a great boon to all and sundry.

It will also come as a surprise to many that there are now two hippos in the lake ; these came across for the first time, apparently from the Ruchuru River.

As no remarks on a district can be said to be complete without viewing it from an economic standpoint, I will say this much : that to simple souls it has all that this old world has to offer, excepting the social life and accessibility from the outer world. When a railway reaches Lake Kivu, there will be a rush for it ; more's the pity !

Here amongst the polite and simple Belgians and the unspoilt Watusi and Wahutu, is a great opportunity for the would-be settler (and his wife !). An, as yet, unknown paradise awaits him, where a man may still find happiness, that " Pearl of Great Price."

At present there is such an over-abundance of everything that living is ridiculously cheap. For thirty francs a month the local chiefs will supply a man with all he wants of meat, milk, butter and vegetables.

At the native markets can be obtained at absurdly cheap prices : beef, mutton, pork, chickens, fish, eggs, fruits and

vegetables of all kinds, butter, milk, honey, coffee, wheat, rice, nuts, peas, beans, potatoes (European and sweet) tobacco (equal to Latakia), banana flour, oils and finely-worked mats and baskets. What more does man want ?

A description of what the rich volcanic soil will grow would be merely a reiteration; suffice it to say that most products will give double the return that they do anywhere else.

The Bugoie cattle have comparatively small horns, and are the finest breed in the district, being larger, squarer and straighter than any other pure African race. The rich pasture to be found on the lava-plains has probably a good deal to do with this, and will also account for the quantity and richness of the milk these cows produce, which amounts to often as much as six litres daily from one cow.

Yearling bullocks can now be purchased at Kisenji for from eight to ten francs a head, heifers at twenty to thirty francs, sheep for five francs. The Ruanda cattle have this one disability that they will not travel well and neither will they live when exported.

The Belgians tell me that plans are maturing to connect Lake Tanganyika with Kivu by a good motor road and so bring the Ruanda in touch with the market in the Katanga Copper Belt.

It will be seen from the foregoing that young men desirous of carving out a place for themselves in Africa would do well to consult the Belgian Colonial Office, before they are led away by pretentious South or East African advertisements.

CHAPTER VI

POPULAR AND CONTEMPORARY VULCANOLOGY IN ITS RELATION TO THE VIRUNGA VOLCANOES

" Where cavernous chasms are yawning
Through lands that are painfully new."
A Riddle of Roads. Verse I.

THE science of vulcanology, dealing as it does with the birth and death of worlds and the most stupendous force on earth, cannot but make an appeal to the imagination of most of us and to others, like myself, holds an irresistible fascination. I will therefore, before taking him to the realms of Vulcan, refresh my reader's memory with a short epitome on the subject in its bearing on the Virunga volcanoes.

To the mind of most people when they first visit an active volcano—if they have not read up the subject beforehand—there will come a crowd of questions which may be embodied in the one query: " Why is a volcano ? " and then like the usual reply to the question, " Why is the sea salt ? " the answer will be very indefinite and probably entirely wrong.

The text-books tell us that a volcano is a more or less perfectly conical hill or mountain formed by the successive accumulations of ejected matter in a state of incandescence or high heat—its summit usually terminating in a bowl-like hollow called a crater. From the crater are ejected—sometimes continuously, sometimes with long intervals of quiescence but always more or less explosively, gas, steam or water, dust, scoria (bits of natural slag) and molten rock (lava),

The Virunga Volcanoes

The earth, being a live world and not a dead one, must breathe ; volcanoes may, therefore, also be described as the " breathing places " of the globe, where the pent-up gases, formed beneath the world's crust, may escape.

To go a little deeper into the subject, the earth* must be considered as a gradually cooling, and consequently contracting, spherical mass with a comparatively shallow outer crust of water-logged earth and stone, beyond which the interior is composed of either solid or molten rock.

Now it is easy to understand that all cooling bodies contract. Therefore on this account, and also in part helped by the continual shifting of masses of the earth's surface by the action of water, pressure and strain† are set up resulting in crustal convulsions and earthquakes. The globe, therefore, on which we live, is continually altering, being raised up in some parts, whilst in others it subsides. Thus are the fissures and cross-fissures formed which, when reaching down to a lake or " pocket " of molten lava, become the pipes along which this lava may *perhaps* reach through to the surface.

I say " perhaps," for the fissure may be there and the molten lava at the bottom of it, but it won't spurt forth " on its own," so to speak. It must have some driving force behind it and obviously some agent which is strengthened by repression. This force is water, and steam (which is water vaporised). Likewise if the water is withdrawn from a volcano it will cease to be active.

* The earth is assumed to have been originally a burning incandescent mass.

† Isostasy : or the endeavour of a rotating body after distortion to assume a form in which it is again in equilibrium ; has also been brought forward as a potent factor in producing movements and fissures in the earth's crust.

Now, let us suppose that one of these earthquakes or earth contractions formed a fissure in the bed of the ocean or a lake (either a surface or subterranean one) and that the ramifications of this fissure connected up with a lake of red-hot lava. The result would be an explosion together with the formation of vast quantities of steam. We have now an embryo of an eruption and after this it needs very little effort of the imagination to follow the combined lava, water and steam under terrific pressure, in its efforts to escape along the line of least resistance.

Thus we have the phenomena of volcanic eruptions. Perhaps not in all instances caused in exactly this manner, for it has been suggested that eruptions may be brought about by mere percolation of water on to the red-hot lava.

It has been calculated, moreover, on the evidence of the fact that the average increase of temperature from the surface of the earth in a downward direction is approximately 1° F. for every sixty feet, that the burning lava thrown out by an eruption comes up from a depth below ground of from twenty to thirty miles.

Before going on to describe the Virunga volcanoes in particular it would be as well to state the fact that volcanoes are put into three classes, viz., active, dormant and extinct. An active volcano, as we all know, still continues at intervals to break into eruption. A dormant one, however, is one which after being quiescent for a long interval, as if its fires were extinct, suddenly breaks forth anew and is therefore the most to be feared. The third and last is the extinct volcano, which is one not known to have been in eruption since man has been upon the earth.

The Virunga Volcanoes

The Virunga or Mfumbiro* volcanic mountain chain, as will be seen by an examination of the accompanying map, is divided into three groups. The most easterly consisting of three volcanoes—Sabinyo, Mgahinga and Muhavura. The central group of three more named respectively Karisimbi, Mikeno and Visoke, and the western, also the most active, composed of Ninagongo (a triple cone), Namlagira and three small cones of quite recent formation.

Whereas the central group may be said to be quite extinct, this is by no means the case with the western end of the range, or, let it be said, with the eastern portion. In reference to the latter, the discovery made by the vulcanologist attached to the Duke of Mecklenburg's Expedition of 1907 of the comparatively recent flow of lava from the Muhavura volcano, which displaced the theory that the oldest formed and most extinct volcanoes were to be found in the eastern group—is in part borne out by a report lately to hand and recently published in the journal of the Royal Geographical Society. The report says that in a small valley called Kimbugu, a little to the north of the eastern group (viz., 29° 58′ E. long. by 0° 58′ S. lat.), a lake welled up during the night, having an area of about one hundred yards square, with a maximum depth of fourteen feet, where previously there had been neither a stream nor a pool. There was a collection of native huts in the valley, and although the water did not touch these, thirty-two people were found dead in them in

* Regarding the name Mfumbiro, I must say that I never heard it used by any native. Virunga was the name always used when any member of my "safari" referred to the volcanoes.

NOTE BY SIR HARRY JOHNSTON: "Umu-fumbiro in Luganda and perhaps Runyoro means 'a cooking pot,' and was the term applied to this region by the Baganda in conversation with Speke. Captain Speke was the first white man to see and report these volcanoes in 1861.—H. H. J."

the morning, from noxious fumes given off by the flood.

For the benefit of vulcanologists and others, and before describing my journeys through the western and central groups, I will give a descriptive account of each volcano separately and some data concerning the most recent and important volcanic disturbances so far as these are known.

To take the latter first, we will begin with the three small newly formed volcanoes :—

(*a*) A low active cone without crater, formed by explosive eruption three miles to the north of Mbusi Bay (Kabino Inlet) and south-west of Namlagira volcano, in May, 1904.

(*b*) A smaller but higher active cone, the so-called Kanamaharage volcano, with crater, formed by explosive eruption in an opposite direction to the last named, at the eastern foot of Namlagira volcano in July, 1905.

(*c*) A hill-like active cone, similar to (*b*) ; the so-called Kiverunga volcano, formed by explosive eruption close to the first named (*a*) cone, in December, 1912.

(*d*) The formation of a small lake in a valley named Kimbugu, to the north-east of the Sabinyo volcano, in June, 1920, giving off mephitic fumes. There was no eruption of lava.

Then, in a class by themselves, come the eruptions of more or less severity of the Namlagira volcano, the most active cone of the entire group, which occurred between the years 1907 and 1910. This volcano is still (1920) remarkably active.

No eruption of the second largest active crater of Nina-

gongo is on record, but when visited in the year 1894 by Count Götzen, it was described by him as in full activity.

With reference to the foregoing data it is interesting to note that the missionaries at Bobandana and Njundo, at the north end of Lake Kivu, put the cycle of severe eruptions at eight or nine years. As earth tremors have become frequent of late in the neighbourhood and as the volcano of Ninagongo is now reported (June, 1920) to have returned to unwonted activity, another eruption is perhaps imminent.

The north-west corner of Lake Kivu and the country directly north of it, which lies in the shadow of the western wall of the Great Rift, being in close proximity to the volcanic outbursts of 1904 and 1913, are of considerable interest.

The last eruption in this region which began about December 8th, 1912, and lasted well into April, 1913, was of a severe description. The red-hot lava flowing down into the lake towards the point of the Mbusi Peninsula, at first completely filled up an extensive lagoon there and thence flowing onwards has all but sealed up the channel into the Mbusi Bay. Until quite recently these new lava beds were too hot to walk upon and even now are still moving or rather subsiding. The vicinity of the channel is always covered with flecks of foam, telling of the heat beneath. Geysers also are frequently seen in this part of the lake.

At the time of the eruption many natives were killed, being suffocated by fumes or their boats cracked and burnt by the heat in their efforts to retrieve the dead fish, which lay scattered about on the water in great numbers. Others died from starvation owing to the destruction of their crops, whilst others again, refusing to leave their villages, were overwhelmed as they crouched within their huts.

Sir Alfred Sharpe has a tale to tell about this in his account of the eruption, in the *Field* of December, 1913. He speaks of the convulsion in the following terms :—

" Its site was previously flat ground covered with grass and stunted trees. . . . It began with an earthquake and immediately afterwards smoke was seen issuing from great rents in the ground. This was followed by fire and explosions, and twenty-four hours later a full-fledged crater was pouring out a column of fire, ash and lava. A broad river of swiftly flowing lava poured into the Kabino inlet at the north-west corner of Lake Kivu, three miles from the volcano, and had already heated the water of that part of the lake to boiling point.

" When crossing the lake, occasionally whirlwinds of steam would form and stretch upwards for three hundred or four hundred feet, like waterspouts. What with the roar of the volcano, occasional deafening explosions, the vast columns of steam and smoke, and the lurid gloom all around, it was a striking scene. For miles in every direction the country was black ; there was not a green leaf or blade of grass to be seen. We found many birds and small mammals, killed by falling stones, some of which measured two inches in diameter. We did not sleep that night. We had several sharp earthquake shocks, a hurricane of wind raged with appalling lightning, our tents were nearly blown away and for two hours a heavy fall of ash and stones threatened to bury our small camp. The roar from the volcano was incessant—a steady deafening roar ; the whole country below us was lit up by the column of fire, lava and red-hot stones, which were shot up thousands of feet.

" Some idea of the fierceness of this outbreak while it

¶ This is part of the "Flowing River of Lava" described by Sir Alfred Sharpe *The Field*, December, 1913 after it had cooled. The photograph was taken by the Author from the point of the Mbusi Peninsula, which is about 150 yards on the opposite side of the narrow Channel. To the right can be seen the commencement of the Cliff, which will be found in the illustration facing page 91

¶ The Lip of the Crater of Ninagongo. From the top of crater to the crater-floor is about 650 feet.

lasted may be gathered from the fact that at the post of Walikali, in the Congo forests, one hundred miles to the west, ashes fell heavily for two days, while the eruption was heard at Beni, one hundred and forty miles to the north, and at Bukoba, on the Victoria Nyanza, one hundred and ninety miles east."

With this description of the most recent eruption in the Virunga Mountains, we will pass on to the eight volcanoes themselves, composing this range.

NINAGONGO or Niragongo—although by no means the highest, as it only reaches an altitude of 11,300 feet, is nevertheless the most famous of these, by reason of its imposing position close to Lake Kivu and its symmetrical form. It may, indeed, be termed classical, so much is it held in superstitious dread by the inhabitants of the surrounding districts as being the abode of evil spirits, and so much does it enter into their life and history. The first ascent of this cone was made by Count Götzen in 1894, and since then it has been climbed by Mr. J. E. S. Moore, the Duke of Mecklenburg, and many others. It may be described as a perfectly symmetrical truncated cone, overshadowing two elevated subsidiary extinct craters on its north and south sides. Both the subsidiary cones are quite perfect, the one to the north, which contains a crater-lake, being 9,480 feet above sea level, and the one to the south, which has a grass-covered dry lava bottom, 9,255 feet. The whole pile is forest and bush clad to within one thousand feet of its summit, the last five hundred feet being bare iron-like lava. The crater, which appears to be perfectly round, I calculated approaches one mile in diameter and its vertical sides six hundred and fifty feet deep—with an oval eruptive vent of

some eight hundred and fifty yards in breadth at its longest diameter, and situated directly in the centre of a flat crater-floor of fine lapilli and yellow ash. The fumaroles consist of semi-circular cracks or fissures running parallel to the lip of the vent, and giving the impression that the crater-floor is undermined from below and will collapse one day into the eruptive shaft itself, as has previously occurred. The fumaroles continually give forth a thick white vapour and the shaft a yellowish smoke. No glow is perceptible from this volcano at night.

NAMLAGIRA—which is 10,046 feet above sea level, and the foot of which adjoins that of Ninagongo, as seen from the south-east or east, is indistinguishable from a broad, flat-topped mountain except for the huge column of white smoke that it continually puts forth from the eastern end of its vast crater. This terraced crater, which is said to be one and a half miles across, has the ruins of an old and former crater projecting towards its centre from the east side, forming a kind of core to the present one. There are numerous active parasitic craters on the southern side. Both the southern and eastern slopes are composed of congealed rivers of lava which have piled themselves one against another in their course, fold upon fold of lava being interspersed by bands and lines of forest and brushwood which reach nearly to the summit. At night, this volcano, which is the most active in the entire range, presents a magnificent sight as it reflects a bright and steady glow on its own column of smoke and on any clouds that may have formed within its radius.

KARISIMBI—this extinct volcano is the highest in the Virunga range, as its beautifully modelled peak reaches an altitude of 14,780 feet above sea level. It has two craters,

¶ The Double Eruptive Shaft of Ninagongo, 1910.

¶ The Eruptive Shaft as it is to-day (1920), approximately 850 yards broad at its largest diameter

¶ The extinct Volcano of Karisimbi from the north-west.

¶ The active Volcano of Ninagongo from the south-west and its southern subsidiary crater. The Author's porters adjusting their loads in the foreground.

one lying directly under the south side of the peak, the other a crater of large dimensions but almost unrecognisable as such, forming a flat-topped swampy ridge or plateau running out in an easterly direction. The large crater is now overgrown with swamp-grass and reeds, amongst which stand several small lakes. The summit of the peak has weathered into numerous ridges and channels in which snow may be seen to have lodged overnight, giving a beautiful pink and white umbrella effect in the early morning. The name Karisimbi has some relation to this white covering of snow. The peak is scarcely ever visible except in the very early hours, owing to the continual mists that surround it. Whether the actual top of the peak itself has ever been reached by an explorer is a matter of doubt. Up to the last five hundred feet, which is very steep, this volcano, similarly with all the others, is clothed in vegetation of more or less luxuriance.

Mikeno—which name is translated by some as meaning "Two Teeth,"* from the two teeth-like spurs on its crest and by others as meaning "The place of poverty," is connected with Karisimbi by a high ridge or saddle, and as it reaches an altitude of 14,600 feet, is the second highest volcano in the range. The peak, which is usually snow-capped in the morning hours, has never been scaled. The aspect of this extinct volcano, which somewhat resembles the Puy de Dôme of Auvergne in France, differs from the usual owing to its special formation. In this case the molten lava, instead of being blown up explosively, has been steadily pushed up, which accounts for its resemblance to just a high and rocky mountain. It has no crater, but the central peak would appear to be a core or "neck" pushed up from the

* This is not the meaning.—H. H. J.

centre after the surrounding lava had cooled, and thus forming the broad ledge below the summit which is such a noticeable feature when the volcano is viewed from the south. At its foot, on the west side, are two parasitic craters, in one of which a pretty crater-lake is situated.

VISOKE, Kisasa or Bisoko, the third and smallest of the central group, reaches an altitude of 12,450 feet and has a large and well-formed extinct summit crater. On one side there is a small pool which is popularly supposed by the natives to assure a plentiful increase to any cattle drinking there. The name Kisasa has been given to this pool and is now generally used by the inhabitants when referring to the volcano itself.

SABINYO—meaning " Five Teeth " in the native language,* and so named from the five spurs that form its serrated crest —is a craterless extinct volcano, elongated in form and, as it reaches an altitude of 11,960 feet, is the second highest of the eastern group. Its formation is said to be similar to that of Mikeno and is not to be considered as the ruins of an ancient crater but standing now as it was originally formed. Together with the last named volcano it is the most ancient in the entire range.

MGAHINGA, 11,253 feet high, is a low, truncated, extinct volcano, symmetrically shaped, with a well formed crater, but otherwise of no great interest.

MUHAVURA, which may be called a dormant volcano, has an altitude of 13,547 feet above sea level ; it is the third highest of the whole range and also the most easterly. It

* These meanings attributed to the volcanoes' names are wrong : " Five Teeth " in the local language of this district would be " Amenyo amatano." It is quite possible that some of the volcano names antedate the Bantu occupation of the country.—H. H. J.

has the remains of a small crater under and to the east of the peak, which has formed itself into a bog, and, contrary to preconceived ideas, bears every evidence of having erupted in the nineteenth century, so disproving the theory of the relative activity of the range as passing from east to west. The name Muhavura is translated as meaning the "Landmark," on account of its outstanding position at the end of the range and its consequent use as a guide to travellers. It is also the sacred mountain of Ruanda, where the good fairies are supposed to dwell, the antithesis of Ninagonga to the west.

To close this chapter let me add that one is rather astonished to find that there is so little mention of the Virunga volcanic region either in the letterpress or illustrations of English works on vulcanology. Yet this region, as well as the whole of the Great Rift valley, extending as it does right into and beyond the Red Sea, "a line of weakness" in the earth's crust—should be teeming with interest for the vulcanologist. It is, moreover, broken into and dammed across by one of the most recent (geologically speaking) volcanic upheavals, and farther inland than any other volcanic region of like magnitude. Little is known of this region at present, not only of its vulcanology but also of its fauna and flora. I have every hope therefore that these notes, though lacking in scientific exactness as they must inevitably be, will prove, with the illustrations, of interest to many, and may even, with very little stretch of the imagination, one day prove of use to the aeroplane-tourist of the not very distant future as he passes on his way from the Cape to Cairo.

CHAPTER VII

EXPLORATION AND GORILLA HUNTING AMONGST THE VOLCANOES OF THE VIRUNGA MOUNTAINS

Shadows of delicate dawning are creeping beneath the trees,
Mystical murmurs of morning are floating upon the breeze—
There's joy in the City's clamour—pageants of pleasure, and glamour,
But nevertheless, my masters, there are worthier things than these!"

The Out-station. Verse I.

LET me put it on record that the treatment accorded our tiny expedition during its five weeks' work in the Kisenji district was all and more that could be desired. And this at a time when our English papers and the powers-that-be were slanging the Belgians right and left for hanging on to the Ruanda and Burundi, for which they had fought and won. Our kind friend Monsieur Verhulst, *Chef de Poste* of Kisenji, went so far as offering to feed us free of charge, whilst the genial Commandant Hollants, of Saisi fame, not to mention Lieut. Lecoque of the Soke fight, were kindness itself from the very first. Our sojourn therefore in this delightful spot proved to be a very happy one.

Soon after our arrival we had speedily made ourselves at home in one of the lava-built houses to be found there, and almost immediately I set about the task of making preparations for the ascent of Ninagongo, which stood beckoningly on the northern horizon.

As Commandant Hollants decided to join me in the venture, good porters were soon forthcoming, and we left Kisenji well equipped on September 19th, to take the track that leads the traveller by devious lava-strewn ways to a small rest-house

or *gite* called Kibati, distant about two miles from the foot of the famous volcano. Here we found it necessary to wait one day to arrange for a supply of food and water for our carriers, and also to obtain guides. Water is a scarce commodity in all such extensive lava-fields as that in which Kibati is situated, owing to the porous nature of the lava-bed. The natives in the vicinity are in the habit of using bent banana leaves to catch rain water, otherwise they would have to visit the lake daily, a distance of eleven miles, for their supplies.

Kibati, which stands close to the boundary, and overlooking what once was German territory, is in a way noteworthy, for from this place General Tombeur started his campaign against the Germans. As range upon range of inhospitable mountains confront the spectator, one can well imagine the stout heart of the Belgian commander failing him at such a prospect. Here too, in the little cemetery, many Belgians sleep well amongst the geraniums, telling the tale of the first clash of conflict.

The following morning there was again a delay of several hours for more water, some of our carriers having to go all the way to the lake to obtain it ; thus the morning was well advanced before we eventually got off. At length, however, we moved forward to our goal and soon found ourselves entering the tangled growth of the foot-hills and breasting the outer bastions of the great pile, thick with tropical foliage. Very soon the track steepened to a stiff climb, for the most part along old elephant paths, evidences of which could be seen on either hand in the shape of upturned trees and broken branches. After three hours' steady climbing, the first signs of a change in the vegetation were to be discerned, shrub-like

growths, intermixed with small heather bushes (*Ericaceæ*) taking the place of the tall fern-hung forest trees. This giant heather became more frequent and sturdier the higher we ascended and, together with senecios and a few other growths, presently entirely replaced the lower vegetation excepting the mosses and ground plants.

It now being late in the afternoon and having reached a mossy ledge bordering the barren lava summit, we pitched our tents, both ourselves and the porters setting about the job of making all snug against a cold night.

The ascent of this volcano is not difficult in fine weather, but as heavy mists, storms, and blizzards are frequent and sudden, there is the danger that some of one's porters might succumb to exposure and cold, or the possibility that one might get lost oneself in a thick mist. To accentuate the fact, a violent thunderstorm drifted over our little camp shortly before sundown without warning and coming from nowhere in particular. For fully half an hour a deluge of icy rain beat upon us, bringing the thermometer with a bound down to freezing point, our breath showing up white even in our tents. The storm dropped away, however, as suddenly as it came, leaving a clear, star-lit sky, cut across by the gleaming dome of the Ninagongo crater close above us and giving the promise of a fine night. This passed uneventfully, the stillness however, being broken by several terrific "hee-haws" from Commandant Hollant's donkey at intervals in the course of the night, and a few answering moans from an old lion far away in the forest below.

Rising at 4.30 the following morning, and after partaking of some hot wine (sweetened and spiced, this is an ideal stimulant on such occasions) and sandwiches, we dug out a

few stiffened porters from their beds of heather and started to mount the last thousand feet that separated us from the summit, carrying a box of food, a bundle of wood, the cameras and collecting outfit, a rifle and a bottle of brandy.

Half an hour's climbing brought us out on the bare lava where the vegetation practically ceases, enabling us to appreciate the splendid spectacle of the sun about to rise behind the clear-cut peaks of Karisimbi and Mikeno. Although the bases of these giants were swathed in empurpled mist, their snow-sprinkled summits stood out finely in the rosy dawn without a cloud to mar their beauty—save only as an added charm a pink umbrella of vapour, a misty halo, that lay just resting above the tip of Karisimbi. Then, too, as if Dame Nature had said : " I have something to show you, just this once," the moon in its last quarter and Venus, the Morning Star, hung close together above the fairy scene. Enchanted scenery, as it might be, from some other world.

Another world too greeted our gaze as, after reaching the summit, we peered over the edge and into the Ninagongo crater. For there, six or seven hundred feet sheer below, lay a vast and steaming pit, a world of Titans and unknown forces at work in the bowels of the earth, beside which one feels a puny atom. The crater, the crater-floor and the oval eruptive shaft might have been laid out by some master-builder, so symmetrical do they appear to be. The crater-floor, which approximates a mile in diameter, is perfectly flat and seems to be covered with yellow sand, but which in reality is pulverized lava. In the centre of this is the immense smoking vent, or eruptive shaft, surrounded by semi-circular cracks, running parallel to its edge, and which emit a heavy white vapour, the smoke from the vent itself being pale yellow

in colour. The only noise I heard during the six hours spent on the summit was a seething sound from the shaft as of boiling lava. The vapour and smoke from the volcano are in no way mephitic, as swifts were to be observed circling around within the crater itself, even as though there were insects to be caught there. I myself took one butterfly, an *Acræid*, and also observed a large species of *Hesperid* flying past, right on the lip of the crater. The acid sulphur fumes were just noticeable, but were rather pleasant than otherwise.

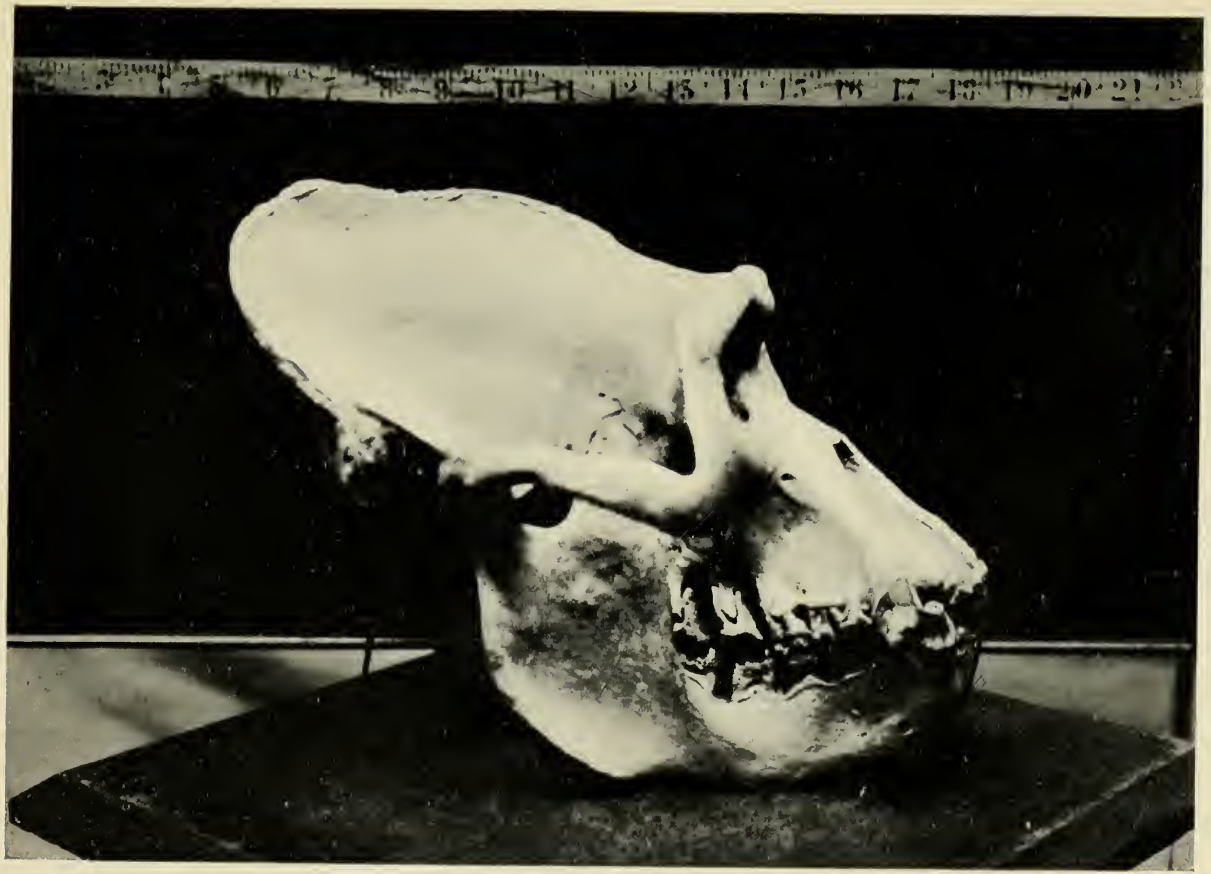
Having taken my fill, not only of the enthralling sight of the great crater beside me, but also of the extensive panorama below me of forest, lake and crater, I proceeded to photograph and film all that I considered worth while. Ninagongo itself first occupied my attention and after Karisimbi and Mikeno, its subsidiary southern crater, as a good bird's-eye view of its forest-clad mouth was obtainable from where I stood.

The fact that a column of vapour appeared to be issuing from the eastern end of this supposed extinct volcano and the otherwise interesting look of its grass-covered crater-floor, aroused the curiosity of both Commandant Hollants and myself so much that we determined to put our camp there that night. Therefore, after a prolonged study of the north end of Lake Kivu, we descended and striking camp, soon found ourselves clambering down the steep cliffs that form the crater-ring and which we had seen from above.

The vegetation we passed through before reaching the open crater-floor was the weirdest and most fantastic I have ever seen, composed as it was, almost entirely, of bright green yellow-flowered senecios, overhung by festoons of grey-green beard-moss which grew on every small tree and bush.

The Author on the lip of the Ninagongo Crater. The vast chasm of the eruptive shaft can be discerned within the smoking crater to the left.

Commandant Hollants' and the Author's Camp on the "floor" of the southern subsidiary crater of Ninagongo. Ninagongo itself is just discernible in the mists above.



¶ The Skull of the very old Male Gorilla seen in the Frontispiece. As the teeth are quite worn away, the animal was possibly of very great age. Gorillas come to maturity slowly, possibly not reaching the fully adult stage in the male till 12 years old.

The circle of the crater-floor on which we camped was a good half-mile in diameter. It was covered with short grass interspersed with giant lobelias growing over a perfectly uniform and flat crust of iron-like lava, with a surface resembling ironstone. Completely surrounding us stood the circle of cliffs composing the sides of the crater-mouth and we felt to be, as we probably were, the first white men to camp down in such an unique spot as the depth of an unbroken crater.

In the afternoon, and again the following morning, I set myself the task of trying to find the cause of the column of vapour we had seen from above, but nothing could I discover amidst the tangled growths from which it had appeared to issue.

After this, and owing to the fact that the water supply for ourselves and our natives had now run out, there was nothing for it but to make the best of our way back to Kisenji. This we accordingly did and so pleasantly ending one of those unforgettable experiences that go to even up the hard knocks that Africa so frequently deals out.

After paying a short visit to Goma on the lake shore, a few miles north of Kisenji, and examining the interesting volcanic features to be seen there, I began to make ready for a longer trip which was to include the exploration of the volcanoes of Mikeno, Karisimbi and Visoke, where I hoped to discover new insects and perhaps meet with the gorilla.

All was again ready for this second excursion by the morning of September 27th, so again regretfully saying farewell to my wife I set out, accompanied only by my Wahutu carriers. On this trip I made the fatal mistake of leaving without an adequate supply of food, and relying, as I did, on obtaining sufficient from local chiefs it nearly cost me dear.

The situation was saved later by the expedient of sending back half my porters to buy food at the Kisenji market at the cost of considerable delay.

Unless money is no object, and the man can afford to pay unlimitedly, the three essentials that go to make the successful African explorer are patience, perseverance, and a strong-mindedness ; without them the would-be traveller had better not leave the beaten track. This present " safari " of mine nearly " failed to meet the test," for, to begin with, a steady downpour of rain commenced which continued to beat upon us for the best part of ten days, making the carriers disgruntled and the ground soggy and slippery. After scarcity of food, useless guides were my next trouble. From the first day I had my doubts about them, which were soon confirmed by their glaring (or wilful) lack of knowledge of any part of the district. Mere bluffers they were, so I cleared them out and engaged two others, who assured me they knew the volcanoes well and that they in fact lived in the bamboo zone on the sides of Karisimbi.

In spite of the sun being continually obscured by the lowering clouds and for the time being all sense of direction gone, I had every faith in my new guides and their ability to lead me to the point I wished to make. I therefore kept to their course which, after floundering through many miles of wet forest and along muddy cattle-tracks that intersected it in all directions, eventually brought us to a wonderful little crater-lake, tucked away into the riven foot of Mikeno on its western flank. This appeared to me to be a serviceable place from which to begin the ascent of the two giant volcanoes that now towered into the clouds above us, and moreover my boots being wet through, with rain still falling and

C. The Volcano of Mikeno and the Gorilla Forest, where the Author made his Camp. The Trees are the Hagenias described in the next Chapter.

¶ A Forest of Senecios and Beard-moss within the subsidiary crater of Ninagongo, and from which the column of vapour described by the Author was seen to be issuing.

the air bitterly cold, I was more than pleased to get the camp fixed up. For this purpose I chose a flat ledge close by, which commanded an extensive view across the valley of the Ninagongo *massif* and the glowing crater of Namlagira. This camping place, from a scenic point of view, would be hard to beat but it had its disadvantages, for apart from being very cold, the elevation being seven thousand feet, it was overgrown with stinging-nettles of a very poisonous variety* beside which our own homely species pales into insignificance. As the place proved to be a very good one for moths, which in spite of rain and cold came to my gasoline lamp moth-trap in considerable numbers, these tall nettles gave me a lively time, for on more than one occasion I happened to beat up against them in my chase after passing insects. There can be little doubt that on these occasions my porters put me down as a maniac, for both the language I used and the figure I cut (a semi-war-dance accompanied by a waving butterfly-net), must have been appalling.

Two days were required by my men in which to secure sufficient supplies of food to carry them over the next week, the time passing very monotonously for me in the damp and rain-soaked camp, mitigated solely by a few hours' sunshine.

Taking advantage of this, I paid another visit to the crater-lake, which is the only permanent water supply for man or beast within a radius of many miles. This extinct parasitic crater, seen in the sunshine, is the most beautiful spot that can well be imagined. Shaped like a horse-shoe, with steep sides gouged out of the base of its giant host, its novelty is enhanced by a narrow breach in its western front, caused by the overflowing crater-lake, and forming a

* Evidently like those on the Kenya volcano, British East Africa.—H. H. J.

kind of gateway on to the original crater-floor where lies a circular shallow pool some hundred yards in diameter. As verdure of all shades surmounts the encirling walls of this miniature lake right down to the water's edge, where red, white and black cattle are to be seen standing at ease and mirrored in its depth—the scene is worth more than this poor pen-picture : is indeed worthy the canvas of a great painter.

From my guide I now began to hear tales of the gorillas, the *Ngege* as the natives call them hereabouts ; in fact six weeks ago two brothers named Foster had shot two, and caught a young one, in the bamboo forest higher up on Mikeno, directly above this small pool. From my guide's description and judging by the fact that he was able to differentiate between what he called the *Impundu* (the chimpanzi) and the *Ngege* (the gorilla), it was evident I was within measurable distance of seeing and perhaps shooting a specimen of this animal : the largest species of man-ape that walks the earth to-day.

What with rain and cold, bad and grumbling porters, lack of food and suitable guides, I had begun to wonder if the climbing of these volcanoes was worth the candle, but the news concerning the gorillas and the arrival of a quantity of food putting everyone in a good humour, things took a turn for the better, and I decided to start for the higher regions on the following morning. This was the seventh day out from Kisenji and it broke fine and sunny, showing up the magnificent scenery that had been hidden for so long and leaving the twin peaks above us, clear, snow-capped and gloriously beautiful. So with the sunshine our troubles were forgotten, each man shouldering his load with a light heart and full tummy, and stepping out with a will for gorilla land.

Gorilla Hunting

The "saddle" that connects the two volcanoes of Mikeno and Karisimbi approximates an elevation of ten thousand five hundred feet, and, as water is obtainable in some small bogs that exist there, I decided to reach this and make it my camping place for the further exploration of this part of the range.

As the "safari" mounted to this ridge, evidences of elephant and buffalo became more frequent, and the bamboo and other tropical foliage more dense. However on approaching the top, the hardy traveller will reach a definitely marked zone beyond which the bamboo apparently will not grow, and he will be delighted to find himself amidst open forest scenery that can only be described as elysian. This unique forest, which is little more than two miles square, is composed almost entirely of old and knotted hagenia trees (resembling the European sumach) on the gnarled stems and branches of which are to be seen massive pads of dark green moss. Hagenia trees growing elsewhere never attain a thickness of trunk much greater than two feet, but here their growth for some unexplained reason has become abnormal, many of their red arched and buttressed trunks assuming giant proportions three times this measurement. Judging by the rubbed and marked appearance of many of them, they are greatly favoured by the buffaloes for rubbing their horns and hides against, also on occasions the shelters afforded by their overhanging trunks are used by gorillas.

These trees do not grow thickly together but form an open forest, interspersed with small glades of tree veronicas and lobelias, the black loam beneath being covered with succulent fennels, docks and sorrels and other species of aquatic-looking plants that snap to the tread; the sorrels,

with grass and bamboo leaves, form the favourite food of the gorillas.

It was on the edge of this hagenia zone that, for the first time in my life, it fell to my lot to find and examine the freshly made sleeping-place of a solitary "old-man" gorilla. As I obtained a very good photograph of this, which will be found reproduced on the opposite page, it is unnecessary to describe it in detail; suffice it to say that it consisted of a fair-sized hole scooped in the ground, and filled in with leaves and bamboo branches bent down for the purpose.

Shortly after passing this place we entered the patch of open forest that I have previously described, and finding a suitable camping place near a water-hole, we cleared, with considerable difficulty, a patch free from the thick growth of Alpine foliage. I then put up the two tents I had with me, one for myself, the other as a kitchen and boys' tent, the porters meanwhile selecting a huge overhanging creeper-covered hagenia stem for their quarters, which would afford considerable protection against inclement weather.

When I left my damp and cold camp the following morning for a still wetter and colder forest, I had little hope of bagging a gorilla, one of the rarest and most interesting animals that may fall to the hunter's rifle, the mere name of which had often thrilled my younger days and around which there still hangs something primeval, like the forests from which they come. Such luck seemed too good to come true, but this time however my luck was in, a recompense for having "stuck it out." "It's dogged as does it," is a good motto!

Now, it is perhaps not generally known that gorillas are fond of bending over long bamboos to make a kind of low platform upon which to sun themselves and from which

¶ The Home of a Solitary "Old-man" Gorilla on the Karisimbi Volcano at 10,000 feet above sea-level

¶ The Head and Shoulders of a Kivu Gorilla.

to pluck and chew the tender leaves. Thus engaged was the first gorilla I encountered. My Mhutu guide and myself had been going carefully along through the dew-drenched forest, when we were attracted by what sounded like a cough and a breaking branch a considerable distance in advance of our position. This the native assured me came from the animals we sought, but quite how he could distinguish the sounds from those made by a buffalo I am at a loss to understand; however he was right, for after gingerly picking our way ahead for a short distance, we disturbed one of these hairy giants taking an early morning sun-bath on his platform. He was however too quick for us, for either sensing danger or having seen us, he made one great leap off his perch, accompanied by a screaming roar, and was immediately lost to view behind the thick screen of bamboos. The set of the wind being in our favour we stood stock still where we were, it being evident that the big ape could not have smelt us and therefore had simply leaped to the ground, and was in all likelihood standing and listening for intruders just where he landed after his jump. Owing to the dense nature of the bamboo forest in which we were, the incident just described occurred at close quarters and I was now standing, as I guessed, within twenty paces of my quarry—there being only a tiny glade separating me from the bank of bamboo into which he had disappeared. These surmises proved correct for suddenly there broke forth from the opposite thicket the weirdest "devil's tattoo" that can be imagined; it started with an indrawn whine, which quickly increased in volume until it broke out into a hoarse grunt, accompanied by a heavy resonant clopp—clopp—clopp. I had of course heard of both the gorilla and orang-utan beating their chests to frighten

away an intruder, but when I first listened to this extraordinary "clopping" noise, I scarcely realised that it was being made by the great ape beating his chest. However on thinking the matter over afterwards it was evident that it was produced in this way.

Judging it advisable to allay any suspicions in the animal's mind of our continued presence so close to him, we breathlessly waited a considerable time, in the hope that he would move out of the position in which he had entrenched himself. This the gorilla would not do however, but continued at intervals to gibber and beat his chest, accompanying this by stamping and shaking the bamboos.

Hearing these angry danger signals and the heavy thud of its stamping, one instinctively realised that one was confronted with a large and formidable animal, not a mere monkey, and my mind flashed back to the thick and tough trees that I had seen away back, broken and bent to pieces like matchwood and how it would be with my arm or neck if it got either in its grip. However "Faint heart ne'er won fair lady" or anything else, so after giving my friend Tarzan a quarter of an hour to come out, what time we had been loudly sworn at by the enemy, I decided to accept the challenge and carry the war into the enemy's stronghold by going in after him. Therefore, followed by my guide, who was armed with a useful looking spear, I crossed the glade and going down on all fours crawled into the bamboo thicket rifle in hand. But it was no go this time, for on my advancing a few yards, he heard me and shaking us both up with another of his uncanny roars, crashed away into the forest. Having followed the spoor for a short distance, it became apparent by breaking branches and other noises, that there were quite

a number of gorillas right close at hand, so I decided to abandon a frontal attack in favour of a flanking movement to the right.

Accompanied by my plucky Mhutu spearsman this we accordingly did, and creeping over the mossy ground we presently found ourselves on the edge of a steep glade. On reaching this spot I cautiously peeped through the bamboos and as luck would have it at that moment c-r-a-c-k went a rotten stick beneath my foot ; there was a roar followed by a general commotion in front of me, and again I was discovered. I now threw caution to the winds and wriggled recklessly through the remaining bamboo stems in the wake of the retreating quarry. This brought me out into the open glade and there, squatting in some thick brushwood and apparently quite undismayed by the danger signals of his companions, sat or rather half-stood, with both his massive hands resting on the ground before him, a huge " old-man " gorilla, regarding me with his malign and wrinkled countenance. At this moment I whipped up my rifle and fired point blank at the great bare chest ; the little .303 bullet was well placed and its effect immediate, for he stumbled away but a few yards, and my second bullet finished his career. He then lay quite still outstretched on his stomach with his head buried between the two great hairy arms.

Now pandemonium was let loose. Other members of the troop, which consisted as far as I could judge of two large and quite black females with several young ones of varying ages, stood around uttering their angry barking roars, and I beheld black and evil visages regarding me from under bamboo archways and over leafy thickets. Whilst from out the forest to my right, ambled another monster and crossing right in front of me was soon lost to view in the woods beyond, but it

gave me a good "full view" of another of these giants. This was a second male and his black form made a splendid picture against the lighter foliage as he stopped to gaze curiously at me with his old and furrowed face.

However as I had shot the one, I let him pass on to rejoin the rest of the troop which had now calmed down and were moving off into the undergrowth—going forward myself to examine my prize which lay face down in the grass. On turning him over I was truly astonished at his herculean proportions. His immense arms and hands were especially striking and of such enormous strength that they could doubtless tear even a Hackensmidt or a Sandow limb from limb in a few minutes. These abnormally long arms give this splendid ape a misshapen appearance when walking (or ambling is a better description), the legs being very short in comparison. Living as they do in the mist-covered mountains at a high elevation, and seldom descending to below an altitude of seven thousand feet, these animals carry a thick and long coat of hair, with the exception of the chest which is bare grey skin. In colour, the hair on the arms and shoulders is black, the lower part of the back of the old males having across it a broad band of grey, the lower parts of the body as well as the head becoming greyish brown when fully adult.

The most interesting feature about this specimen, however, and one that has not been remarked before in others, was the elongated crown or crest of thickened skin surmounting the head, which has since been described as a growth similar to the warty face protuberances of the orang-utan and a mark of the completely adult male. This crown was deeply cut in two or three places as if by the teeth of other males

¶ A Male Gorilla shot by the Author. The elongated crest is interesting and the enormous arm and hand are well shown in this photograph.

¶ A Bird's-eye View of the Subsidiary Crater of Ninagongo, in which the Author camped with Commandant Hollants.

¶ The male Kivu Gorilla shot by the Author. The remarkable crown or crest is here seen to advantage.

when fighting. These animals have no cheek pouch and of course no tail.

With a weight approximating four hundred and fifty lbs.* the measurements of my specimen were as follows :—

Standing height (crown to sole of foot) ..	63¾	inches
Span of arms	90	,,
Chest	61	,,
Fore arm	16½	,,
Length of foot	12	,,
Length of hand	10	,,

I have given above the animal's "standing height," but as a matter of fact, contrary to the popular theory, a gorilla seldom walks erect, unless when using its hands to support itself by branches overhead or when alarmed or attacked.

Non-arboreal in habit, this monster ape would seem to have no enemies, failing man; and even man, the most dreaded of all the animal world, holds little fear for the gorilla in his inaccessible home. As before described they never sleep in trees but prefer to make a nest or shelter on the ground, frequently in the centre of a clump of bamboo stems. Judging by my observations, it may be said they scarcely ever climb trees and moreover are not partial to fruit or nuts, preferring to feed on grass herbage and bamboo leaves. Bearing this out is the fact that seeds are never to be seen in their droppings (like those of a chimpanzi for instance)—which resemble those of a horse. The gorilla walks squarely on all fours, with the fingers of its hands doubled under, so that the backs of them are in contact with the ground.

It was now my task, after photographing and filming my prize to have it carried into camp for the skinning and curing

* Over 32 stone.

of the hide and skeleton.* Under this decidedly heavy load twelve niggers struggled and thus heavily laden we slowly reached the tents.

The days that followed were engaged in making an excursion to the Visoke volcano and the ascent of the twin peaks of Mikeno and Karisimbi, between which I had my camp. Senecios, lobelias, heathers and other Alpine plants are to be found growing in profusion at an elevation of about 11,000 feet on both these volcanoes. At one place just below the bare cone of Karisimbi, senecios take the place of nearly all other vegetation.

These various excursions had now completed my entomological work, which proved to be rather disappointing owing to the disgusting weather that had again set in. The cold and wet made it impossible for me to keep warm night or day. Fortunately one evening before I broke camp the clouds had drifted away, revealing the splendid spectacle, hidden till now, of the red storm-tossed cloud-masses hanging above the amber smoke-column of Namlagira, and behind it all the sun setting in a haze of golden splendour.

My work completed, I now packed up my belongings and again retraced my steps by way of Njundo to my temporary home at Kisenji, where the gorilla proved of the greatest interest to both white and black. The skin always attracted a great deal of attention wherever I had it out to dry, the crowd of natives examining it outside my tent often becoming positively embarrassing. It was put down to be anything between a hyena and a lion, according to the tribe we were living amongst. In the Ituri forest, where lions are unknown,

* Note.—My camp followers, although pretty hungry at the time, refused to eat the meat of the gorilla.

it was a lion ; anywhere else it was anything from a muga to an aquatic animal, but few natives, curiously enough, perhaps one in a thousand, knew it for what it was, and those that knew held it in superstitious dread.

On reaching Kisenji I found that several cases had occurred amongst the native population of cerebro-spinal meningitis, a common disease amongst the Ruanda and Urundi natives. To combat the spreading of this disease, disinfection of the lungs and throat was being carried out by the medical department. This took place every morning near the compounds and had to be attended by all native servants, our own included.

Before the war the Germans at Kisenji were in possession of a small gasoline launch. This they sunk, together with many drums of petrol in the lake near by, when they evacuated the place in 1916. Having been salved the launch is now in the possession of the Belgians, and together with a motor-barge is the only mechanically driven vessel on the lake. I believe, however, that another barge is now in course of construction.

The *Petrolette*, as it was called, was very kindly put at my disposal by Commandant Hollants and so, wishing to pay a visit to the scene of the 1912 eruption, in the north-west corner of Lake Kivu, I set out one fine morning with the engineer and two White Fathers for Bobandana, at the south end of Mbusi Bay. We had already passed the high cliff and bare lava-beds that mark the narrowed channel into the bay, and had examined from a distance with our glasses the newly formed volcano, when our engine went on strike. It appeared that since the engine's two years' immersion in the lake it often did this when it felt like it,

requiring sometimes gentle persuasion in the form of two or three gallons of lubricating oil or a brand new sparking plug, at other times a few pieces of sardine tin or binding with native fibre were necessary, and then again on other occasions nothing whatever would move it. This proved to be one of the last-named occasions, so the rough native paddles had to be produced, much to everyone's disgust, and with these we got the boat along. Presently we hailed some native canoes, one being sent back to Kisenji with a note to the Commandant asking for the motor-barge to be sent out to our assistance. In the meantime we paddled painfully into Bobandana Mission Station.

We were hospitably received by the Fathers and as far as the circumstances would allow "made comfortable" for the night, but as it passed uncomfortably for me, I was glad to welcome the motor-barge early next morning.

After loading up this with European potatoes for Busumbura, we took the *Petrolette* in tow and started off again.

Shortly after coming out from Mbusi Bay we observed a sunken volcano, its crater-edge just showing above water in the form of a horse-shoe of bush-clad land enclosing a fairy-like lagoon. It is an enchanting little island called Chegera, and after entering its calm and unruffled waters by the narrow entrance one finds oneself nearly surrounded by a thin ring of greenery, sloping quickly to a reed-clad shore, on the other side of which lie the blue waters of the lake itself. Years ago the missionaries had put some pigs on this lagoon-island, and their progeny were living there in a semi-wild condition. I shot two of these pigs for our larder and hoisting these aboard we set out for our return to Kisenji, which we reached without further incident.

¶ The Lagoon Crater Island of Chegera, in the north-west corner of Lake Kivu. In the middle distance can be seen the entrance to Mbusi Bay, and to the right of the picture the scene of the volcanic outburst of 1912–13, when a new volcano was formed.

¶ The " Petrolette " being towed into Kisenji by the motor-barge after the breakdown. In the distance can be seen the narrow channel into the Mbusi Bay and the newly formed lava-bed (shown in illustration facing page 66), and to the right is a cliff 325 feet high, surrounded by the recent lava formation.

CHAPTER VIII

TO THE GAME-HAUNTED SOLITUDES OF THE RUCHURU AND RUINDI PLAINS

" When the world is out of gear,
When our gods have gone astray,
When the ghosts of yester-year
Rise to taunt the coming day,
In the lull before the rains
Hie we to the Magic Plains."

The Magic Plains. Verse I.

BEFORE leaving Kisenji to resume our northward journey it fell to my lot, for the second time in my life, to be reported as killed by an elephant. How and where the report started it is difficult to say but like news of disaster all the world over it travelled quickly, and before many weeks had passed my wife was receiving letters of condolence from all parts of the country, as far even as from Lake Tanganyika. As I told my wife, judging from the tone of one of the letters I am not at all sure that it would not have ended in a proposal of marriage if she had not written to disprove the report, whilst thanking the kind inquirer for his sympathy.

The peace of Kisenji was rudely shaken on the morning upon which we had decided to start. The discovery was made that in the night a large man-eating lion had sprung on a wretched native servant going to the lake for water and had partially eaten the body, leaving the gruesome remains on the foreshore for all to see. As my porters were all ready and loaded for departure, I was unable to stay for the lion hunt that was to be arranged. Whether or no the

Belgians eventually bagged the lion I did not hear, but it served its purpose as far as we were concerned by putting our whole " safari " on the *qui vive* when night came on, and prepared us for any eventualities that might occur in the lion-infested country we were about to visit.

We were now to leave the Awa-ruanda for the last time. Concerning their country enough has perhaps been said to show how great it is, and what potentialities lie dormant within it for the future. It only remains to be seen with what courage and administrative ability the Belgians will meet their task. But I am bound to say this much, that they seem to have struck the right note in their dealings with Sultan Msinga, and also that their policy is at present paternal and lenient with every chance of working smoothly, providing no further friction arises between the Church (or the many Roman Catholic Missions—who are inclined to be rather too assertive of their authority over the natives), and the State. Further, there can be little doubt that the class of Belgian official employed in administering the Ruanda to-day compares favourably with his English neighbour across the border.

The boundaries of the Belgian Tanganyika territory have now been fixed, but as they are a little complicated my reader had best refer to the map bound up with this volume, and so save the tedium of reading a written description of them.

It was not generally known at the commencement of the war that the Germans had advanced so far with their projected railway from Tabora past the south end of Namirembe Bay to Kaseke on the southern bend of the Kagera River. As a matter of fact, work on this railway had proceeded at such a pace that the construction of the line had reached

more than half-way between the two points. It is moreover believed that this railway formed part of the German Imperial scheme of the conquest of Central Africa. It was discovered during the war that an (until lately) unknown valley (known of course to the Germans but kept secret and unpublished in any save their Secret Service maps) exists on the western side of the Kagera River, and runs parallel with it to a point called Katitumba, near the Uganda border; through this a light railway track can be constructed with ease. From Katitumba I am told it is also a fairly simple problem of railway construction to reach Lake Edward itself, down the valley of the Ntungwe. Thus, owing to fortune being against them in Europe, did another German adventure come to naught and light was thrown again on their secret plans.

Before passing on to a description of the game-haunted solitudes of Lake Edward, it would be as well to record here the facts that led up to the Belgian occupation of the Ruanda and Urundi, so I cannot do better than quote "Nomad's" brief account from *The Spectator*:—

"Up to December, 1915, the military operations of the Congo Belgians had been practically confined to the defence of their own frontiers, as their forces in the Eastern Congo were only such as sufficed for the defence of their own borders, and beyond the garrisoning of certain British frontier outposts in Kigezi, no other military assistance to the operations in German East Africa could be rendered. Concentration of native troops from the Western Congo, where their military headquarters were situated, was both difficult and slow owing to the immense distances to be traversed, and it was not until early in 1916 that any appreciable assistance could be offered to the British forces.

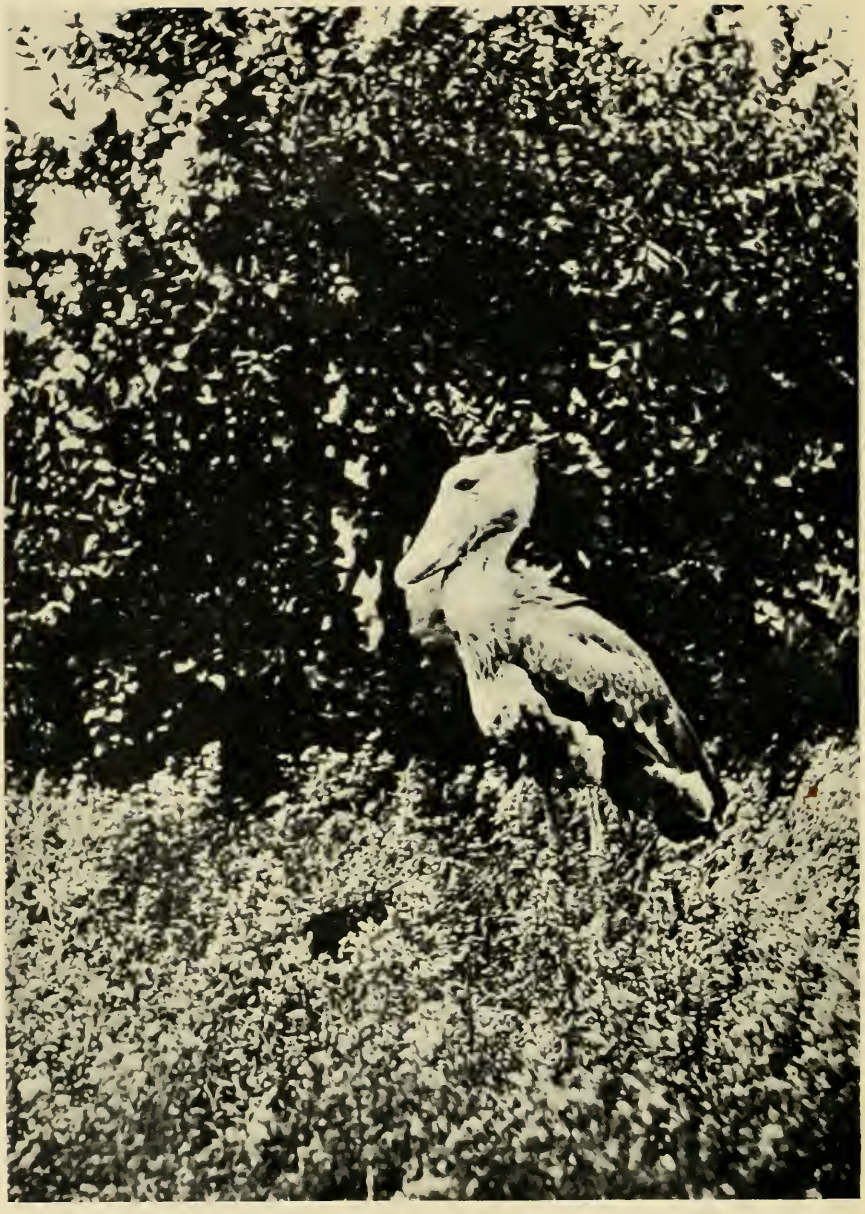
"In Uganda also the position had been strictly defensive as the regular troops had been withdrawn for the operations in German East Africa, and the training and equipment of the irregular forces which had been raised, necessarily took time.

"This position was manifestly unsatisfactory as it kept both the Belgian Congo and Uganda frontiers in a state of unrest, hence it was considered advisable for the respective Governments to endeavour to arrange for a combined offensive, which would clear the Belgian frontiers and the territory between Lake Victoria on the east and Lakes Edwards and Kivu on the west. A conference was consequently arranged between the two Governments when it was decided that, subject to the approval of the British Commander-in-Chief of the East African operations, General Tombeur, with the Belgian Congo troops, would undertake an immediate advance into the Ruanda, provided the Uganda Government would supply the necessary transport. Mutual action followed and the Belgian Congo force, with the Uganda Transport Corps which had been specially organised for the purpose, started on April 25th, 1916 from Kamwezi, near the Uganda frontier.

"Ruanda and Urundi were clear of German troops by July, and by September the Belgian Congo troops had reached and occupied Tabora on the Central Railway. The Uganda Defence Force moved forward at the same time and cleared Karagwe; Bukoba and Muanza being subsequently occupied. An arrangement between the British and Belgian Congo military authorities followed, whereby Ruanda, Urundi and the territory to the west of a line drawn from Namirembe Bay on Lake Victoria to the south-east corner of Tanganyika, came into the Belgian Congo sphere of administration, Karagwe being reserved to the British."

C. Lake Kivu. Looking towards the western wall of the Rift Valley from the crater island of Chegera.

C. A Bahutu Dance in progress at Kisenji.



¶ The Whale-headed (or Boat-billed) Stork (*Balæniceps rex*), found on the Upper Nile and round the north-west of the Victoria Nyanza. Two specimens of this rare bird have lately been captured on Lake Kissale on the Lualaba River. Its existence in the Congo Basin has never before been recorded.

The Ruchuru and Ruindi Plains

With these jottings on its contemporary history, I must leave the Ruanda and passing on, again cross the Congo-Nile watershed into the Lake Edward basin and describe our journeys through it to the Mountains of the Moon.

We left Kisenji with an excited crowd standing round the remains of the meal of the man-eater, while the relatives of the deceased one occupied themselves in tying them on to a pole, with the idea of finishing off the feast in their own huts for aught I know!

Although our send-off was not lacking in heartiness and good wishes—for we made friends easily—it was on this occasion put quite in the shade by the night's tragedy. Thus it was we left behind us the palms, the lemon groves, and the geranium borders of beautiful Kisenji, to cross the boundary into the Belgian Congo.

The track to Ruchuru takes the traveller by way of Kibati, through the pass formed by the two volcanoes of Ninagongo and Namlagira on the one hand and Mikeno and Karisimbi on the other. We had therefore to pass again close to the gorilla country and this decided me to spend a few days in an attempt to obtain some moving-pictures of these rare animals alive and to study their habits still further.

We pitched the tents on one of the lower spurs of Mikeno, on the same spot where the Foster brothers had made camp some months previously. These two Uganda coffee planters had the good fortune to shoot a male and female gorilla, and to secure a baby one a few days old which they found clinging to the back of its dead mother. I have heard since that it thrived well and was bought by the New York Zoo. The Fosters had an interesting and successful hunting expedition until almost the last day before their return home, when

a fatal accident with a wounded lion overtook the eldest of the two brothers whilst out shooting on the Ruindi Plains.

After three days' climbing round the steep sides of Mikeno, it became evident that the gorillas had shifted their quarters to the eastern slopes of Karisimbi, and the weather being wet and misty, I had to abandon any further ideas of cinematography or gorilla hunting. Therefore we struck camp, and moving northward, crossed the watershed on to the recently formed lava flats, the drainage from which forms one of the ultimate sources of the Nile.

The roughness and iron-like nature of the volcanic region through which we were passing, was well evidenced by the mutilated and bent toes of not only all our porters, but of the majority of the inhabitants of the villages as well. Moreever, hunters who know the district complain that many of the elephants who roam over this region are quite often minus one tusk, due to having it smashed off when stumbling or stampeding over the lava-strewn bush. My wife and myself, in spite of our boots, soon felt the discomfort of walking on such a hard and unyielding surface, and the feet of our carriers were usually bleeding at the end of the day's march. Having passed the Roman Catholic Mission of Rugari we were therefore glad to find ourselves well over the more recent lava flow and to feel the soft earth again beneath our feet.

Wishing to get our camp fixed up and to avoid one of the afternoon storms we were experiencing at this time, I found it necessary, contrary to my general rule, to pass this mission without calling on the Fathers by which, much to my regret, I lost the goodwill of these kind people. It appears they were expecting and looking forward to meeting us, but this I did not realise at the time or I should have stopped for a chat.

The Ruchuru and Ruindi Plains

During this period of our journey there was a break between the seasons of the "little" and the "big" rains. The mornings were always fine, but short thunder or rain storms were a frequent occurrence in the afternoons, and the rain being of an exceptionally cold or sometimes sleety variety, it was not exactly in favour with our naked Bahutu porters. They however, had a novel method of keeping the rain away—a method thoroughly believed in by all the natives of the Ruanda. A short wooden whistle, or rather pipe, about three and a half inches long is carried, slung on a string, by most of these natives when on a journey; this pipe would be produced when a storm threatened, by any native who thought himself favoured by the gods, and he would blow it whilst standing on some eminence—such as an ant-hill or mound; at intervals cursing and imploring Jupiter Pluvius not to use his watering-pot. The harangue and the whistling away of the rain always interested the whole "safari," and odds were even as to the result, the proceeding being watched with great attention. As the unsuccessful whistlers always "had their legs pulled" by everybody, and entirely lost their prestige if the rain came after all, it was noticeable that when a man stepped out with his whistle he was very careful to select the right occasion, when the set of the wind or other signs appeared favourable to the desired result. The Wanya-ruanda are the only natives, as far as I know, who practise this curious custom; it is usually the other way in Africa—the gods are more often invoked to send rain and not to withhold it.

On a long expedition such as we were making, and being continually on the move to fresh scenes and new places, we contracted the restless habit of "thinking on ahead" so to

speak. No sooner had we arrived at one place—which had been our goal for some weeks and the name of which had entered daily into our conversation—than we began to think and speak about our next centre or stopping-place. At first it was the Lualaba River, then Tanganyika, then Lake Kivu and so now our minds began to " crystallize " on the Mountains of the Moon—the turning point of our long march.

It was said that from near the Government station of Ruchuru, these great mountains could be seen over a hundred miles away. This Belgian Post, which we were now approaching, stands on the river of the same name, at an elevation of 4,150 feet above sea level, and about midway between Lakes Kivu and Edward. It is the administrative headquarters of the Kivu district and is connected by a track over the border with Kabare, in the Kigezi district of Uganda, but at this time the border was " closed " on account of rinderpest, and only mails were allowed across. There were ten or a dozen Government officials, including a customs officer, also a branch of the *Banque du Congo Belge.*

We reached the place early in November, and although the site of the township is a good one and commands a fiue view of the splendid Kasali mountains across the Ruchuru valley, we did not find it healthy, and, in fact, felt ill and feverish during the period of our stay there. I found it necessary to remain nine days, to enable the special messenger, despatched by the *Administrateur,* to reach Kasindi at the north end of Lake Edward, and to bring back, with a suitable crew, a steel barge or *baleinière* lying there. By the kindness of the *Administrateur,* Monsieur Vanderghorte, this was put at our disposal to take us up the lake, for on inquiry I was informed that the overland journey along the west side of

Lake Edward was dangerous and impracticable on account of the cannibals who infest this region.

At Ruchuru I had to pay customs duty and take out my shooting licences. For some reason only known to the Belgian Government, the game laws and regulations are constantly altering, especially in regard to the shooting of elephants. The district residents themselves are never certain about the cost of game licences, or the number of elephants allowed to be shot. When I applied for a licence I was informed that the cost would be 1,000 francs for the first two and 400 francs for each subsequent elephant shot, up to twenty head, but that, although the applicant had to pay his money down, he was unable to receive his licence or commence shooting for two months, as the application had to be forwarded for the Governor's signature at Stanleyville, thirty days overland. This arrangement must lose the Government many thousands of francs annually, as few hunters would be inclined to wait such a length of time. The regulation came into force a few weeks before I reached Ruchuru. I applied for a licence to shoot two elephants, but when I received it from Stanleyville twelve weeks later, the regulations had again been altered. I also took out a licence to shoot small game, costing fifty francs, which can be obtained on the spot, and under which I was able to shoot all kinds of game, excepting elephants, chimpanzis, gorillas and okapis. To shoot the three last mentioned animals a special licence is necessary for which, however, no charge is made if such specimens are required for scientific purposes.

The district being very rich entomologically, both my collecting " boys " and myself used every available hour of the day for catching insects in the large patches of evergreen

found in the neighbourhood; these were located around the sources of the smaller streams, in the folds of the hills, and also on the borders of the lakelets of this interesting region. For the most part the eastern side of the Ruchuru valley is covered with luxuriant elephant-grass and low bush. The river itself, which has its main source in Lake Mutanda, runs swiftly at the very foot of the grass-covered spurs of the Kasali mountains, first through the rough lava blocks from Namlagira, then out into the lacustrine plains of Lake Edward.

Having crossed the Congo-Nile water-parting over the Virunga mountains, the sudden change in the insect-fauna on the Nile slope is most marked, for here one finds entirely different species of insects, some of which I had not seen for months past—since leaving Lake Tanganyika, in fact! The division is definite but comparatively few miles in width, a narrow boundary where the steppe region ends and the intermediate forest and grass area begins.

The panoramic view, to be obtained from Ruchuru, of the Virunga volcanoes is one of the most imposing bits of scenery to be seen anywhere in Africa. From here these eight giants line across the landscape in imposing array, commanding the attention of all beholders and the admiration of the most phlegmatic. This was the last view we had of them, for on leaving Ruchuru the traveller to Lake Edward descends rapidly to the plains and the greater portion of the range is then hidden from view. This last view, however, does the volcanoes ample justice, and one leaves them with the firm conviction that the stupendous forces that now lie dormant have by no means reached their last effort, but are preparing a holocaust that will convulse the district yet again in a giant upheaval.

The Ruchuru and Ruindi Plains

Our porters were now ready and our route mapped out, but before leaving Ruchuru I must say one word in praise of the care and attention that the Belgians have bestowed on the flower and strawberry beds in and around the " township." The flowers were principally roses, and the fact that they grow here so luxuriantly had led one of the Government officials to turn rose-planter for the production of attar of roses. No strawberries grown in the tropics have any flavour, to my mind, but what was lacking in quality in the Ruchuru fruit was well made up for in quantity and nothing could surpass them for jam-making purposes.

We made a friend in Monsieur Fourget, the manager of the *Banque du Congo Belge* at Ruchuru, who happily decided to join our " safari " and take a few days' shooting leave. We found him a delightful and entertaining companion and his method of hunting dangerous game—which I will recount later on—fairly " tickled us to death " (as the Americans say).

We all " got under way " on the morning of the 12th of November, and very soon found ourselves traversing the humid flats, now long with standing grass, that here border the eastern side of the Ruchuru River. After a long and hot trek we crossed the river by a shaky bridge and camped under the Kasali mountains on the other side.

The following day brought us by an easy and pleasant march to some boiling springs known as Maji-ya-moto. The water, which is too hot to bear the hand in, has its source in several geysers, one throwing up a continuous thin jet of water, and others ejecting it explosively from the rocks at short intervals. As the steaming hot water has only a few hundred yards to flow before it reaches the Ruchuru, it

increases the temperature of that river pretty considerably. The hippos have found this out, and a pool a short way below the junction is a favourite haunt of theirs. As our tents were pitched below the high bluff which here marks the turning point to the west of the Kasali mountains, a number of these great beasts were to be seen below the camp enjoying their hot bath. Not being in want of meat and hoping to obtain some moving-pictures of them, I am glad to say they were left unmolested on this occasion, much to the disgust of our porters, however, who were dying for a gorge of their favourite food.

Although we were only on the outskirts of the extensive lacustrine plains to which I have previously alluded, yet around this camp (which stood on a high pebbly ridge, forming part of the ancient foreshore of the old lake system), we had a glimpse, in the herds of antelope around us, of the extraordinary wealth of animal life collected in this comparatively small area by Lake Edward. As it is perhaps the remotest and least accessible of any such places in Africa to-day, it is likely to remain for many a long year a sanctuary for bird and beast, unvisited save only by an occasional traveller.

By selecting a track that led us to an unmapped river called the Ruindi, which rises in a distant corner at the back of the Kasali mountains, we were breaking new ground. The line of the Ruindi River is marked on few if any published maps and is named on none of them, but it is nevertheless a broad and swift, though shallow river, bearing down to the lake a considerable volume of water from some unknown source in the western Rift Valley mountains. It is not definitely known if the waters of Lake Moho and its many marshy surroundings—lying north-west of the Namlagira

¶ A Hippo' shot on Lake Edward.

¶ The head of the Buffalo that eventually proved a nasty customer to deal with. It was due to the animal being blind in one eye that the Author escaped a bad accident.

volcano—drain into Lake Kivu, directly into the Oso River, a tributary of the Congo, or into Lake Edward ; or even if its waters drain off at all, but it has been thought that this small lake might form the source of the Ruindi. Judging by the configuration of the Kasali and the connecting ranges viewed from the Lake Edward side, I am of the opinion that Lake Moho does not form a direct source for the Ruindi, but may however feed a spring below its own level by seepage through the intervening hills at its north end, and so become indirectly a source for the latter river.

After the gameless country of Ruanda our trek amongst the herds of buck scattered over the intervening plains between the Ruchuru and Ruindi Rivers, was indeed a pleasure, and in spite of the terrific heat the rather stiff march passed more easily. This first day gave us a foretaste of our new environment, after which we expected anything, for whilst striking camp in the early morning we were all set agog, as we munched our breakfast, by a fine old lioness suddenly appearing in full view of the whole caravan. She was, however, a little too curious and stood regarding us just a trifle too long, for having my rifle handy I drew a bead on her at three hundred yards and hit her, whereupon she sprang into the long grass, lying down beside an ant-heap as if badly wounded. Unfortunately it was impossible to follow her up, as the lioness was on the opposite side of the river which was unfordable at this point, so there we had to leave it, for a hot and long journey lay before us.

The lioness began the day and a nasty, solitary old bull buffalo ended it, challenging our right of way as we approached our proposed camping place on the Ruindi River.

It was in this way. The porters who, on account of thirst, were anxious to reach the river, were a good mile ahead of us and could be seen advancing in a long string across the plain. We had just reached a high piece of ground overlooking this scene and were rather astonished to notice what looked like an elephant in the shimmering heat, advancing steadily towards the head of the caravan. The porters had stopped and were all bunched up, undecided as to what to do; but their minds were made up for them however, a few seconds afterwards, by the big animal, which turned out to be a very large old buffalo, increasing his pace into the well-known lumbering gallop, with the result that our carriers fled precipitately, leaving only a line of loads to face the charging animal. We were fortunate in having a clear bird's-eye view of the whole affair, and the three of us stood watching the miniature bull-fight with open-mouthed interest. (We could almost feel ourselves standing below there with those nervous porters, at the critical moment when the buffalo charged and the men, dropping their loads, sprinted back in a body, shedding clothes, calabashes and other odds and ends as they ran.) Our friend the buffalo came near the loads, got a whiff of them, it seemed, and thinking in his little mind that having "cleared the field" he had done all that was required, lumbered away again across the plain, probably to some little spot that only he knew, where the grass grew lush and long for the evening feed.

Just before this episode we obtained our first view of Lake Edward, showing as a silver streak two days' march to the north; beyond this again we thought we could make out a dull gleam high above the horizon, but could not be sure if this was in reality a reflection from the great snow

mountains for which our gaze searched, or if it was only some figment of the imagination.

The porters having gathered their belongings and re-shouldered their loads, it was not long ere we reached the deeply eroded ravine of the Ruindi River, which runs seventy or eighty feet below the level of the surrounding plains. Owing to the thick forest that clothes the sides of the river—growing at the bottom of the ravine and not on its edge—and the tops of the trees not reaching above the surrounding level, the course of the river is all but hidden from view unless one overlooks it from some eminence or is close to it. It is just such a river course as one would expect would eat its way across these vast flats in a bygone age when they were plastered with the slimy ooze of the lake bottom, after the great eruption had damned back the waters of Lake Kivu. Few trees of any size have been able to find root on these sun-baked arid plains since then, excepting the hardy Acacia thorns, euphorbias and other zerophytes.

Crossing the Ruindi ravine was not easy, as its sides are best described as cliffs, but after a rest in its cool shade we were soon clambering up the far bank and presently found ourselves at an old camping place and standing round the forlorn grave of young Foster, on the other side.

"Killed by a lion!" From all accounts, Foster, who was a keen and plucky hunter, would like the above epitaph as well as any other and although his grave is the most lonely imaginable from a human point of view, he lies midst a great assembly of splendid animals: and how much finer, cleaner and more graceful are they than human beings!

The tale concerning his death was told to me by Monsieur Fourget, who accompanied the Fosters on the trip in question.

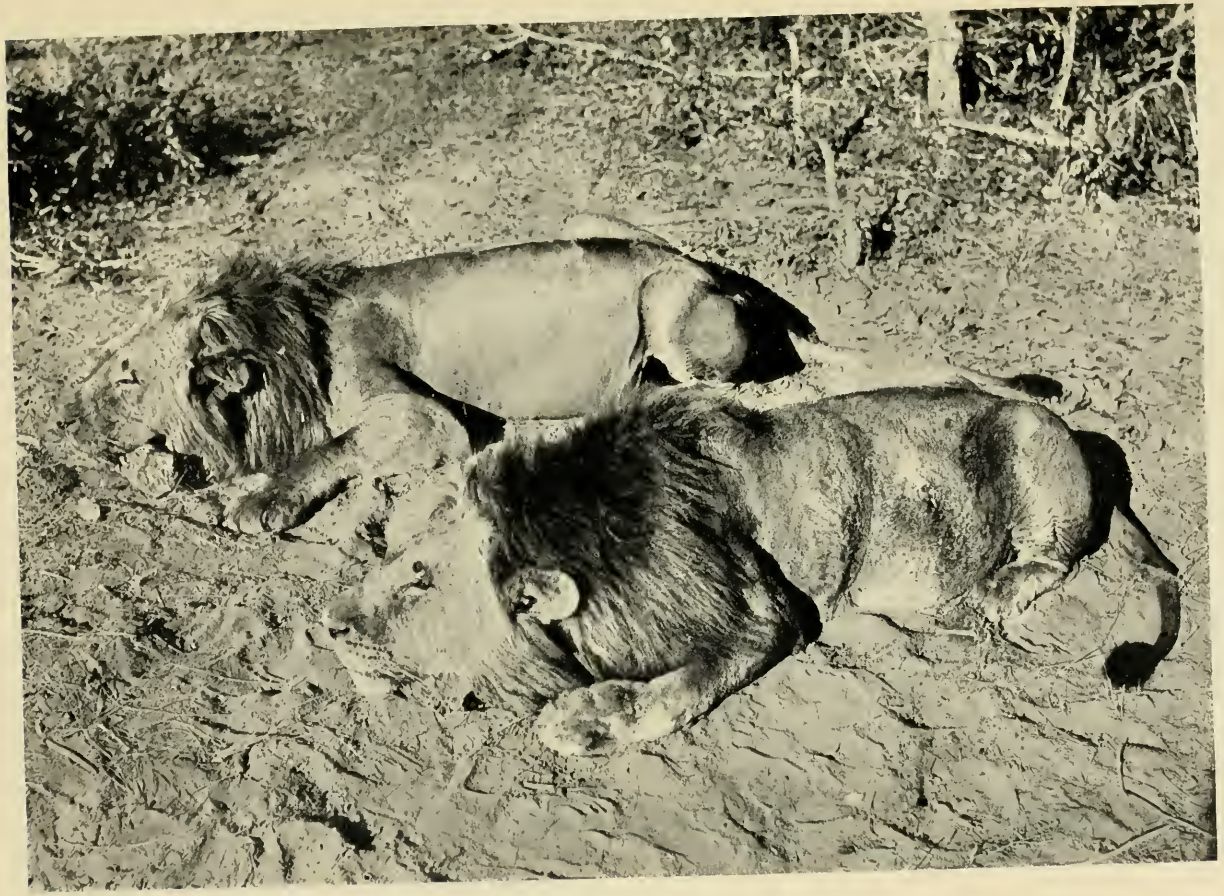
It has been told before and will be told again so long as there are Britishers ; the circumstances were as follows :—

The Ruindi plains at certain times of the year have more lions to the square mile than any other part of Africa (or the world for that matter). They are to be seen here in troops of seventeen to twenty at a time. The natives have fled the district and all save two small villages have been abandoned on account of them. Lions here are as common as rabbits in a park. This fact being known at Ruchuru, the brothers Foster heard of it and, collecting carriers, immediately proceeded to the spot, camping in the same place where we camped.

When we arrived the game had shifted down the Ruindi towards the Ruchuru estuary and the lions with them, but some weeks previously, when the Fosters were there, they were extremely numerous and it was only necessary to leave a dead buck or two about to find lions feeding on at least one of the carcases in the morning or afternoon. The brothers had shot five lions in this way, but not content with this fine bag they spoored up—with the help of their dogs—a lion which they had wounded, locating it in a dense thicket. Here they did not take the warning their dogs gave them by their evident reluctance to enter this, but the two brothers, advancing shoulder to shoulder, with their rifles at the ready, went in. On reaching the centre of the small wood the lion charged them at close quarters and, failing to kill it, the elder brother was knocked flying by the infuriated animal, which gave him a terrible bite in the neck. The poor fellow was carried sadly back to camp with his spine so badly injured that he succumbed two days later.

¶ The Kasali Mountains, bordering the Ruchuru River, looking south across the old lake-floor of the Rift Valley.

¶ The Foster brothers and a before-breakfast bag on the Rundi River. The man on the left of the picture was killed by a lion as described in this chapter



¶, Two Lions shot by the Author.

CHAPTER IX

THE WILD SHORES OF LAKE EDWARD AND ITS GREAT GAME

" Shadow shapes with sweeping horns
Glinting in the level rays,
Shapes that through a thousand dawns
Feed along the meadow ways,
Roan and eland and the rest
Grazing toward the golden West."
The Magic Plains. Verse IV.

HOW the balance of nature is kept with regard to lions has never been adequately explained. Nothing preys on them and a lioness gives birth to from two to four—sometimes five—cubs at a time. Yet, how is it they do not overrun Africa ?

Antelopes and other animals, having many enemies and producing their kind one at a time, have overrun parts of the continent to such an extent that human ingenuity has been hard put to it to cope with their numbers. Environment and scarcity or otherwise of food has little to do with it in the case of lions, for they are frequently numerous in districts where game is scarce and scarce where game is plentiful.

Seeking a reason to account for their numbers being kept within bounds, one perhaps finds it in the fact that the lion, like some dogs, pigs and rabbits, has a malign instinct found cropping out here and there throughout nature, and not entirely absent even from man—that makes it eat its own cubs. To guard against this race-suicide, the mother lion has to resort to hiding them away from her lord and master as best she can.

It is possible also that young lions are more prone to disease than vegetable-feeding animals. That the lioness, like all the cat tribe, is a good and affectionate mother is proved by the following experience.

Some years ago I had my tent pitched in a small village in Nyasaland, and during the night was awakened by the low moaning grunts of a lion, which continued until the early hours of the morning. At the time I thought the sounds unusual for a lion, being so low toned and mournful. In fact, until I went outside my tent to listen more attentively they seemed to come from a distance, but it was evident, by the indrawn breath being distinctly audible, that they were uttered close at hand.

Early next morning, having just left the vicinity of the village and entering a well-worn track made by elephants when raiding the native gardens, I ran right into a big lion round a bend in the path. He gave me no time to even raise my rifle, but catching sight of me gave a great bound that landed him in one instant completely out of sight in the long grass. Shortly after I heard a growl from the opposite side of the track which betokened a second lion.

I returned to the village and, collecting my porters and a few volunteers, organised a drive, which however was unsuccessful. After the drive and when returning to camp, I followed a narrow trail in the bush which on examination proved to be a well-worn lion path, and which brought me to a deep pit-fall made by the natives for trapping antelope feeding in their gardens. This pit was less than one hundred yards from the village, and I was astonished to find that another track led me beyond the pit up to a certain hut in the village. The ground in proximity to the pit was flattened

down, showing on it after a recent shower—and also along the two tracks I have described—innumerable broad pug marks of lions. The pit itself was scored on all sides near the top by a network of deep scratches in the hard clay.

The natives of Nyasaland and Rhodesia have many superstitions regarding lions, principal among which is their belief in the transmigration of the souls of their dead chiefs into the bodies of lions, and on this account natives there will give little or no information or help to the would-be lion hunter. However, after some persuasion, I elicited the following facts to account for the curious discovery I had made.

It appeared that two months before I arrived at the village, four lion cubs had fallen into the game pit and on being found next morning were speared and carried to the hut of the village headman, where they were skinned. From this time onwards the lion and lioness—father and mother of the cubs—never ceased to haunt the vicinity of the village, and almost nightly one or the other paced back and forth along the track to the pit, and from the pit to the hut and back again, searching for their lost cubs. At intervals, no doubt, the mother would claw away at the edge of the pit, perhaps fancying that her young ones were still there. While she did this she uttered the moaning calls I have described.

This was not quite all, for the lions, finding game was becoming scarce in the vicinity, took to man-eating and had already killed and eaten the headman of the village and one of his wives. Thus was their revenge complete!

On the Ruindi River and on the mountains and plains surrounding it, are to be found large numbers of lions, giving the impression that all the lions for a radius of many miles had collected in this one spot. They started to entertain us

during dinner with a fine chorus from across the river, and kept it up at intervals until about the time we all turned in for the night.

I was the last to go to bed as I set myself the rather ticklish job of collecting moths with my lamp moth-trap. This consisted of a " Storm-King " gasoline lantern of 300 candle power,* standing in the centre of a four-foot cube-shaped frame-work, with mosquito netting stretched around three sides. As our camp stood on a cliff overlooking the tree tops of the Ruindi, I calculated the edge of this would be a good place to rig up my trap and so here I fixed it. However, towards 9.30 a heavy wind sprang up and blew lamp, table and trap over the cliff into the trees below ; so there I left them—veritably, to the lions, and went to bed to dream of the butterflies and moths that are only seen in dreamland, and of the splendid time I hoped to have " filming " the great game around us.

It was not my intention to hunt lions in the ordinary sense, but as I passed through the country I hoped to obtain some moving pictures of them. So with this purpose in view, Mr. Fourget and myself would shoot either one or two waterbuck or Uganda kob (*Cobus*) in the course of the day, and, covering the carcases with leaves to prevent them being eaten by vultures meanwhile, leave them out at night in likely places as bait for lions. We did this on three occasions, but although we saw lions out on the plains, contrary to the experience of the Fosters, none came to our baits. This was

* This lantern, which has mica in place of glass, and which is fitted with either one or two incandescent rag mantles and burns petrol vapour and air mixed, is the strongest and most economical lamp I know of for all " safari " purposes. The lamp referred to above fell and rolled a good fifty feet over the cliff, but, with the exception of the mantles, was unbroken when picked up.

in part due to the fact that since the Fosters' visit, the game —and consequently the lions—had shifted to other feeding grounds farther down the Ruindi, so we ourselves decided to move on.

When I say the game had shifted to other pastures I do not mean to imply that there was little game to be seen. As a matter of fact we beheld antelope and other beasts still dotting the plains in all directions as we marched across them. First it would be a small herd of wart-hog that trotted beside us, tails erect and heads up in that smart way they have ; then we would pass through a herd ot silly curious topi (*Damaliscus*), reminding me of the tsesebe of Lake Bangweulu, and anon, kob antelopes would have to be shoo-ed out of our way—in fact these last animals were so tame that when we came on one or two of them lying down they would only get up at the very last moment. Water-buck too, were numerous, being finer animals with larger horns than any I have seen in Africa. Reedbuck and bush-buck were fairly common ; and amongst the game-birds, two species of the lesser bustard, which make such a tasty addition to the hunter's menu. These birds were in greater numbers than I have previously seen anywhere. Guinea-fowls also were plentiful. It is round Lake Edward too (more frequently at the north end than on the plains to the south) that the hunter, if he has good luck and rises at dawn, may catch the giant forest hog (*Hylochœrus meinertzhageni*) out on the plain in search of roots, before this rare animal is aware that it is high time he was off again to his forest fastness.

From our camp on the Ruindi, we took a north-westerly direction to the foot of the western wall of the Rift Valley

Mountains, which here rise steeply up from the flat plain. Game was now seen literally in thousands, which was not surprising as the grass was young and green from recent rains. Whereas we had before seen them in scattered bunches, they were now in herds of two and three hundred strong; buffaloes and elephants were also included in the menagerie. The former were to be seen in strings, wandering down in Indian file to some waterhole, or standing about under the bright green acacia thorns in groups of grey and black, their swinging tails switching away the flies. The elephants looked gigantic in the heat mirage, and stood apart on the edge of a shallow river that here debouches from the mountains, with that baggy, misfitting-trousers kind of look, the while they lazily flapped their huge ears.

We had reached a hunter's paradise of the wildest and most remote description, lacking in nothing dear to the heart of such savages as my wife and myself. The boat, engaged to meet us at a small fishing village on the shores of Lake Edward, was not due for some days yet, so we decided to give ourselves up to the fascination of the game-haunted solitudes around us and, for myself, to take advantage of the opportunities afforded for moving picture photography.

We decided to make camp on the stream where the elephants were, and on our way thither, my wife, who was several yards ahead of Mr. Fourget and myself, ran plumb into a great herd of buffalo, which was hidden from view behind a screen of long grass. She was accompanied only by one boy, whom she cutely sent back to warn me to bring along my movie-camera. This I got fixed up in double quick time, and carrying it over my shoulder, soon joined her close to the drowsy herd of buffalo, which fortunately, owing

to the set of the wind, was entirely unsuspicious of our presence. As my wife wished to watch the subsequent proceedings I placed her in a position of comparative safety on a high ant-hill. Meanwhile our Belgian friend and his black ex-soldier gun-bearer, having no fancy for buffaloes at such close quarters, climbed with considerable alacrity (though, I should imagine, not without pain) a small thorn tree still farther in the rear, from which elevated but precarious position (with their swaying rifles at the ready) they bravely viewed with scorn and derision the baffled buffaloes.

Advancing carefully with my camera, by short stages, I managed to get up to the animals and took some unique films of them at close range. Eventually they got alarmed and thundered away, disturbing as they did so a very large herd of mixed topi and kob which I had not noticed until then. I attempted to film these antelopes but unsuccessfully, after which we walked the short distance to the small river near at hand, where we camped 'neath some fine old acacias.

From this camp I made several short excursions into the surrounding district in search of insects and to take pictures of game. Lions were frequently seen but I never managed to come within camera range of any of them except once, and then, as luck would have it, I was without my apparatus. However, I bagged two fine maned lions on this occasion and so was compensated to some extent for the loss of a unique chance to film them.

Our Belgian friend, although a delightful camp companion, was a broken reed as far as hunting or filming dangerous game was concerned. When it came to the point of facing a lion or a buffalo, even at a reasonably safe distance, as he himself remarked, he had not lost any and therefore was

not looking for them. He made "no bones about it," but simply stated the fact that he did not intend risking his life for the sake of a mere trophy. Both my wife and myself "pulled his leg" all day long but it made not a particle of difference to his even temper, as he entirely lacked the sporting instinct.

In spite of this—what we will call—disability, he was nevertheless extremely anxious to shoot a buffalo, if he could do so at a safe distance, and one of his efforts to this end was the funniest thing I ever saw.

Early one morning, on a dried-up swamp near our camp, there happened to be a small herd of buffaloes feeding, and as there were a few of Fourget's favourite trees near them, the chance was not to be missed; he sallied forth therefore with his native bearer, whilst I brought up the rear with my kine-camera in the hope of filming something interesting. Some scattered trees, a good two hundred yards distant from the unsuspicious animals, were selected as the first objective, but on reaching them they were found to be rather smaller than our friend had anticipated. They were, in fact, not more than ten or twelve feet high, of a sturdy growth with spreading tops, but as there was nothing bigger in the vicinity (and no thorn trees!) it had to be these or nothing. Fourget therefore legged it up the biggest and swaying gently, peered out over the grass at his coveted *bêtes noires*, who fed slowly along. With our friend, the mere sight of a shaggy-eared buffalo was enough to "put the wind up him." I think, therefore, at this moment one must have looked in his direction, for he beckoned to his gun-bearer to join him up the tree. Following his master's orders, the native just managed to push his way up beside

¶ The Larvæ of a Warble Fly attached to the Inner Surface of a freshly killed Lechwe Antelope. The animal was extremely emaciated on account of these parasites. Some of the cysts have been cut open to show the Larvæ themselves and a sixpence lodged on them to show their Size.

¶ A Cloud of the Kungu Fly on Lake Edward, seen at a distance of about three miles. A second cloud of these insects may be seen on the horizon to the right.

¶ Monsieur Fourget embarks in the "Betty" at dawn on his return to Ruchuru.

him, and the two of them swaying there like a couple of vultures on a windshaken branch, put the little tree to such a severe test that it gave way under the strain, precipitating the two clinging braves, rifles and all, into the grass below. After this they selected separate trees and arranged to fire simultaneously. Whether it was the swaying tree tops, or the long range, or the excitement, I do not know, but their selected victim appeared to lumber off unharmed after the fusillade, the herd settling down to feed again unconcernedly a mile or so farther on. Thinking to give Fourget a hand to bag his buffalo, I left my camera behind and took him with me up to the herd which now stood in the open. However, as there were no trees handy he would not shoot, so leaving him in disgust I returned to camp.

Three more days having sped pleasantly away in this camp, we considered it time to be moving on to the wild shores of Lake Edward itself where we were to meet our boat. Before going on to a description of this remote water and its interesting fauna, I must say just one word in praise of an unknown " feathered friend " that never missed paying us a call each morning at early dawn. This little grey fellow of the Reed Warbler type had to my mind the most alluring and entrancing series of liquid whispering notes it is possible to conceive. They were so beautiful and of such sweetness that I shall never forget the little Lake Edward bird that, for a few minutes each morning, favoured the camp with his tiny song as if he knew we loved to hear it. I feel quite sure he missed the slumbering camp the morning after our departure, and went off to his breakfast with a sad heart.

From this camp to the little bay that confronts the fishing village of Siko Moyo proved to be a good six hours' trek,

first through a series of acacia park lands and then, as we approached the lake, past the extensive palm-covered swamps that overgrow the estuary of the Ruindi River. On our left hand stood the abrupt spurs of the Central African Rift Mountains which run from here right out on to the western shores of the lake. Beyond them lies the unexplored country of the cannibal Bahuni, untrodden as yet by white man.

At Siko Moyo we were glad to find a comfortable reed rest-house built on the sandy foreshore. The lake water, which always seems to be turbid with organic matter, we found to be slightly brackish and on this account not pleasant to drink.

The lake itself, which stands at an elevation of three thousand feet above sea level, is said to have an area of approximately eight hundred and thirty square miles, and is fifty-two miles long by twenty-four in breadth.

At certain times of the year, principally in December, what, in the distance, looks like heavy smoke clouds, sometimes as much as half a mile in length by three hundred feet in height, are to be seen moving slowly across it. These are in reality clouds of tiny may-flies, the pupæ of which are first noticeable as a reddish-brown film covering many hundred square yards of the surface of the lake. From this stage they suddenly hatch out, and rising quickly *en masse*, give the impression of having suddenly appeared from nowhere. Huge clouds of these insects are continually seen sweeping across the lake and to get into such a cloud is a most unpleasant experience. The natives of Lake Victoria as well as of Lake Edward collect and eat these insects in the form of baked cakes.*

* They are also found on Lake Nyasa, and I think on Tanganyika. —H. H. J.

Yet another interesting feature of the lake is the very large number of hippo to be found along the sand banks and reed beds of its south-western shore. Here during the day these animals, which are rapidly decreasing in numbers in other parts of Africa, lie in the shallows one on top of another in " schools " of thirty and forty at a time, and at night turn the reedy flats into a perfect stamping ground in search of food. I have never seen so many together before nor found them so tame. It was possible to walk along a sand-spit to within twenty-five paces of the drowsy beasts before they would shift.

Round our camp were some specially succulent reed beds which had sprung up young and green after the natives had cleared the surrounding vegetation when building the rest-house. It would seem that this patch of herbage, which lay directly behind the spot selected for our kitchen, had an irresistible attraction for Behemoth, for during the evening the cook rushed in to us with bulging eyes and the breathless statement that a hippo was about to invade the sacred precincts of the culinary art. As the kitchen lay round the corner of the reed-hut, not fifteen paces away, this news was quite exciting, and the moon being at the full, my wife now hoped to realise her wish of seeing a hippo at really close quarters. She had, however, on this occasion donned a white dress for the evening, which of course would frighten away anything when seen in the bright moonlight, so telling her to cover herself with my black oilskin and handing her over to the tender mercies of the cook, whom I instructed to cautiously follow on behind me, I went in advance, rifle in hand, to reconnoitre. Before reaching the kitchen my nostrils were greeted with a strong odour of stable and I

heard the loud plucking sound made by a feeding hippo. Upon turning a clump of bushes, the cause of all this commotion came into full view, resembling nothing so much as a war tank.

He was feeding unsuspiciously in the centre of the clearing, so advancing as near as I dare I took a low aim, as I always do when shooting at night, and fired. The "tank" now showed surprising agility, and rushing towards the lake with the speed of an express train, was soon to be heard diving away into the water, where we found him "toes up," next morning. As I said, when I went forward I left my wife with the cook, who, instead of carrying out my instructions and following me, induced my wife to take a roundabout way to see the fun, with the result that partly owing to the incommodious garment she was wearing preventing free movement, she was nearly run over by the hippo in its dash for the water, and reached camp properly scared, vowing she would never, as long as she lived, go hippo hunting again.

I had some quite novel experiences when filming hippo on the lake. The great drawback to successful photography there was the fact that in the morning, when the animals were sleepy and most easily approached from the shore-side, the sun was right on the camera lens, necessitating placing the heavy camera in a very insecure position on a wobbly canoe and approaching the sleepy animals from the lake or water-side. After several attempts of this kind I decided that the work was too dangerous and it would be best if I confined my efforts to the security of *terra firma*, until our "whale-boat" arrived from Kasindi.

Every afternoon, therefore, I would hide in the reeds by the lake side near the basking hippos, in the hope that

C. A Bull Buffalo of the Cape type shot by the Author.

¶ The old Bull Buffalo as he came out of the Lake, listening to the clicking of the cine-camera.

¶ Suspicious.

some of them would approach near enough to the shore for a successful picture. Sometimes they did and sometimes they didn't, more often the latter, but at all times there was a wealth of bird life to observe and so waiting was never tedious. On one such occasion I had the good fortune to secure a film of the big black-and-white fish-eagle, catching and flying away with a big fish. Again, on a never-to-be-forgotten day, when arriving at my hiding-place, I was not a little astonished to find a solitary old bull buffalo taking a bath in the shallows in front of my favourite seat, where he lay at full length in the water quite oblivious to my near presence.

Such an opportunity only comes once in a lifetime and I took full advantage of it. On making the discovery, I slipped back to my camera " boy " and adjusting my seven-inch lens for close work, I lifted camera and tripod on to my shoulder, and returning, managed to " plant " my camera in the very nick of time, just as the buffalo came through the reeds and stood dripping with mud and water and licking his chops not twenty paces from me. The wind being in my direction, this fine old animal took a prolonged stare at me, and mistaking what he saw for some harmless brother mammal, walked leisurely across my front, picking, as he went, at bits of herbage in his path.

As I consider these splendid African animals finer creations than the common ruck of humanity, nobler in many ways, cleaner, more graceful and more pleasing to the eye, it is with something akin to pity that I have to record the fact that when this fine old buffalo passed into the reeds and so out of the view of my clicking kine-camera, it was not for the last time, and that we were to meet again close to this

haunt of his, under less peaceful circumstances, when man, backed by his devilish inventions, was to come off victor in the encounter.

It happened in this way. The porters were wanting food and needs must have it, so I took my rifle and strolling out in my usual direction, again encountered my whilom friend of the previous day, shot at and wounded him but not so badly that he was unable to escape the subsequent chase. Coming back empty-handed therefore, I decided to try my luck in the same direction on the following day.

On this occasion I had stalked a small herd of waterbuck and having fired several rounds at the leader of the troop, I was suddenly startled by the crash of breaking branches a short distance behind me, and on turning round was faced again by my redoubtable opponent, who had apparently been lying up with his wound in a thicket close at hand and was now charging madly towards me. Fortunately, I still had a solitary bullet in my rifle, and I lost no time in placing it into the on-coming foe. The immediate effect of this was not, however, apparent, for although he swerved, it did not alter the infuriated animal's intention of getting its charge home. Thinking my number was up, I jumped aside for dear life and escaped by a hair's breadth the upward thrust of the massive head with its wicked horns. The charge of the heavy beast carried it some distance beyond me, but bringing itself up with a jolt, it was soon nosing around with every intention of delivering a second assault. By this time, however, I had reloaded, and placing another bullet in its shoulder, I was devoutly thankful to see the beast lumber away showing every sign this time of being vitally hit. When I had collected myself sufficiently to

follow him up, I found the old chap at his last gasp and finished him off with little difficulty. On examination he proved to be very old, of massive proportions, with horns worn away almost to the core, and blind in the right eye. To the latter fact I consider I owe my life—for it was its right horn that missed me! The beast was rolling in fat, and this came in useful for the making of soap, our supply of which had run out.

On the Edward Lake, pelicans and natives fish together. In-shore, fish of every description are so numerous that the natives practise the most simple form of fishing imaginable. This consists of merely walking along in a line in shallow water, each with a capacious (i.e. magnified) crab-pot (without a bottom) in one hand—which they push down at intervals on to the lake mud—and a long spiked stick in the other, on which to impale the fish when caught and extracted from the top hole of the crab-pot. The pelicans seem to enjoy it as much as the fishermen, for they swim in and out between the moving line of natives and apparently find a rich harvest amongst the disturbed shoals. A hippo or two are frequently seen as interested spectators, taking little notice of the ordinary savage. They are, however, cunning enough to know the red *tarbûsh* of the Belgian native soldier when he appears, and will then keep at a respectful distance. The Belgians have the rather foolish custom of supplying their soldiery with a too liberal amount of ammunition, which they shoot off at any game they happen to see.

One evening we were watching the fishing scene I have just described when our long-looked-for boat turned up. Showing first as a speck out on the lake, it presently resolved itself into a twenty-five-foot steel barge-like craft, manned

by fourteen Wanandi paddlers. As I had promised our Belgian friend Fourget the use of it to take him round to the Ruchuru estuary, the following morning therefore saw us saying *bon voyage* and *bonne chance* to our companion just as dawn was breaking.

Although constantly on the watch for a sight of the Ruwenzori Mountains which we knew lay only fifty miles to the north, we had not up to this time caught more than a fleeting glimpse of them, through the piling banks and lines of cloud behind which they seemed to be forever concealed. On this morning, however, the mantle of clouds had fallen away from the higher peaks, and the snow-clad summits were unveiled for the first time, showing faintly in the far distance as cones of gleaming amber light.

The sight made us restless to be off, but as we did not expect the boat back for three days, we had to possess ourselves with what patience we could muster until its return. In the interval we busied ourselves with repacking loads and collecting specimens of the not very numerous species of insects to be found in the locality.

On the third day we were more than a little pleased to see our boat come leisurely paddling round the point again, to the accompaniment of a cheery boating song from the dusky crew. That night we paid off our remaining porters and stowed away our kit in the roomy barge, ready for an early start the following morning, both our followers and ourselves being in great spirits at the thought of the new scenes and new faces that lay before us.

(I had almost forgotten to say that we received a letter from Fourget by the boat, telling us that he had shot a hippo *en route* to the Ruchuru estuary, and that on landing

¶ The " Big Tent " Camp amongst the Moss and Giant Heathers on the Ruwenzori Mountains. These heathers are able to withstand the rigours of an alpine climate by reason of the special formation of the inner surface of the leaves.

¶ The Giant Ferns to be found on the Western Slopes of the Ruwenzori Mountains.

at Kabare village and having gone out to shoot a buck with his famous ex-askari, he had seen a troop of ten lions, two of which he reported as having wounded. But like Cecil Rhodes' favourite lion yarn, we took this *cum grano salis*. The great man's lion story will doubtless bear repetition, so I give the gist of it, which is as follows : A native, as he walked out one day, met a lion, and seeing that it was about to spring on him watched his opportunity, and diving beneath it, managed to escape. The native continued to evade the infuriated beast in this manner until the lion, becoming tired of its fruitless efforts to capture the wily savage, gave up in disgust and retreated to its lair. The following day the native was again out walking and suddenly turning the corner of the path came once more on his old enemy, but this time the lion was too preoccupied to notice him, for he was intently engaged on practising short jumps !)

On the morning of the twenty-seventh of November, 1919, we were all aboard the *baleinière*, which we temporarily christened the *Betty* in honour of my intrepid spouse, and with our tent as awning, and baggage, boys and two native policemen with their wives stowed away aft, we punted and paddled northward along the wild western shore of the Edward Lake.

The scenery bordering the western shore of this lake has a quality quite its own, and I do not remember to have seen anything resembling it along the shores of other African lakes I have visited. The foreshore is of a rocky description backed by a thick line of evergreen forest trees and giant creepers of the rarer kinds, whilst behind this belt of greenery tower the steep spurs of the Rift Mountains. These belts of tropical foliage along the lake harbour an

interesting species of baboon, which from individuals we observed must be of gorilla-like dimensions.

The coast is uninhabited except by a few fishermen, who have built their villages in some of the small creeks. As one approaches the outlet of the Semliki River, the Rift Valley Mountains take an abrupt turn to the west, leaving the lake enclosed only by the low flats that form the southern half of the vale of the Semliki. Here are found a few inhabitants of not too pleasant notoriety.

One may describe the Semliki valley as an extensive flat-bottomed gap between the Central African Rift Valley Mountains on the one hand and the Ruwenzori range on the other, which, from evidences showing on every hand, at one time formed a narrow extension of Lake Edward.* The mouth of the Semliki is not easily seen, for it is overgrown with reeds formed on a sand-bar lying athwart the outlet, and the current is barely perceptible.

From a little village near the Semliki mouth it took five hours' paddling to reach Kasindi on the Uganda-Congo frontier, where we were welcomed by Monsieur Ballez, the customs officer in charge of the station. We stood at last beneath the "Mountains of the Moon" after six months of strenuous travel.

* It is curious, when one considers the fact, that crocodiles being so numerous in the *lower* part of the Semliki, have never been found in Lake Edward; and yet such is the case, as every native will tell you. It is said to be due to the rapids which exist below Lese. But I am of the opinion there must be some other reason to account for the entire absence of crocodiles from Lake Edward.

CHAPTER X

IN THE VALLEY OF THE UPPER SEMLIKI AND THE ASCENT OF THE RUWENZORI MOUNTAINS

" These for the setting ; and, beneath it all,
Tattered and scarred,
My tent, set up in some wide glade, where tall
Dim trees keep guard.

* * * *

" So, in a silence of the early world,
I sit and gaze
Upon the pictures, open and unfurled
Amid the haze."

In the Smoke. Verses III and V.

HAVING reached Kasindi, which stands just below the equator on the southern foot of the Ruwenzori Mountains, we were now approaching that Mecca of entomologists and zoologists—the vast primeval forest, that, bounded on the east by this mountain range, extends from the Semliki valley right across the entire centre of the Northern Congo Basin, and the equal of which is only to be found in the selvas of the Amazon.

Few portions of the African continent remain unexplored to-day, but here we were on the borders of the still unknown region which lies to the south-east of Kasindi, and roughly forming that piece of country drained by the higher waters of the Lindi River directly to the west of Lake Edward, a district given over to wild cannibal tribes known as the Bahuni and Wakobi, and which is, judging by reports brought in by elephant hunters and prospectors who have visited its outskirts, certainly rich in gold, as well as in cattle and ivory.

We were fortunate at this juncture in meeting with Mr. Gibbons, a hardy Uganda settler and elephant-hunter, who had just completed a ten-months' hunting trip in the Ituri Forest and the long-grass country bordering the land of the Bahuni, and who therefore had a lot of useful information to impart, besides entertaining us both with many interesting tales of the wild life he had led since first visiting Africa, thirty years ago. He had with him many fine tusks of elephants, shot both in the long-grass country and in the virgin forest, the difference in the colour of the ivory being very striking. For, whereas the tusks from the former region were of the ordinary creamy-white colour, those from the forest were of such a dark brown as to be almost black; then again there were tusks intermediate between these two colours, shot in a district where the long-grass country borders on the forest. Although I suppose this "black" ivory must be well known to ivory turners and brokers, I have seen no mention of it elsewhere. therefore a few other notes will be found concerning it in the chapter on elephants farther on in this book.

To the fact that Mr. Gibbons was the first Englishman we had met since leaving Kigoma in July, and also owing to the extreme kindness of Monsieur Ballez, the Belgian customs officer, postmaster, J.P., policeman and tax-collector rolled into one, our short stay at Kasindi passed very pleasantly, but so much does the nomadic life get into the blood that we were pleased to be thinking about moving on once more—to feel again the "fever of the horizon," as some other traveller has so aptly called it.

It was now the beginning of December and the season of the heavy rains approaching. We had to submit at intervals

¶ A Male Wart-hog. These animals form, with Bushpigs, Water-buck, and Zebra, the favourite food of Lions, and are very numerous on the Ruindi and Ruchuru Plains.

¶ The snow-clad Peaks of the Ruwenzori Mountains. From Ulimbi, looking across the Valley of the Kamsonsa. In this Valley lies the Lake described on page 142. (Note in the foreground the giant Senecios.)

to tornadoes of wind and rain that made travelling far from comfortable, but as these usually occurred in the afternoon one was pretty safe from their fury so long as camp was fixed before then. During our stay at Kasindi we had of course been longing to get a good view of those great snow peaks that we knew to be hidden in the thick clouds above us, but owing to the stormy weather and the position of Kasindi this we had not yet done. I was moreover anxious to push on with all speed to Mbeni, from which place I hoped to make the ascent of the Ruwenzori Mountains before the heavy rains set in. Thus, there were several reasons that made us glad that we were on the tramp again, when with our new "safari" we found ourselves dropping down, from the high ridge on which the post of Kasindi stands, to the banks of the Semliki River.

The Semliki, which carries off the overflow from Lake Edward and following a winding course joins up this lake with Lake Albert, is a river little known to any save a few hunters and travellers by reason of its remoteness, and to the fear of what a bite from one of the tsetse flies that abound in its valley, may bring. This most dreaded of all African scourges, which decimated the population of this district during the commencement of the last decade, flies abroad along its sinister euphorbia-covered banks and in its fevered palm-hung swamps. However, like all such places in Africa, the valley holds by the very nature of its surroundings a great deal that is interesting and beautiful, and even fascinating, as one looks back upon it.

Where we crossed the river it was a good hundred yards broad, with banks of great height cut out of the surrounding plains, which at one time doubtless formed a bygone lake

floor, the formation resembling that of the Ruindi Plains. After getting our loads across with the help of the one available canoe, we camped on the west bank of the river, some twelve miles below the lake mouth ; the site selected for our camp commanding an extensive broadside view of the Ruwenzori mountain range, should it condescend to show itself. In the evening I took my rifle and went for a stroll in search of a kob antelope, and having stalked and shot one I turned to look for my natives who were behind to give them instructions about bringing it into camp, when my attention was caught and riveted by the enchanting picture, suddenly revealed for the first time, of the snow-capped summits of Ruwenzori, glistening white and ethereal high up in the eastern skies. A clear view of the line of snow-peaks and glaciers that form the summit of these mountains is a comparatively rare occurrence, and as the range rises on the western side almost sheer from the level of the Semliki valley, the spectator is somewhat taken aback by his first view of them and the astonishing height to which they reach. After my return to camp, however, this feast of mountain scenery did not remain long to gladden the eye, for the peaks were soon again wrapped in mist, leaving as before, only the lower ranges exposed to view.

At this camp, as on the Ruindi plains, the night was enlivened at intervals by the prolonged chorus of lions, a sound of which we never tired, and coming as it did on this occasion from the direction that I had decided to take on the morrow, it promised an interesting day.

The following morning our course for the first six miles took us south up the west bank of the Semliki, and although

small game were not very abundant, herds of elephant were frequently to be seen and were, moreover, quite unsuspicious of the approach of man. The spot selected for our camp that day proved to be a veritable menagerie of elephant, buffalo and hippo, and on one occasion we were favoured by the novel spectacle of witnessing from the bank of the Semliki a herd of elephant, three hippo and an old bull " buff " in the water together. We watched the latter come down the bank, wade into mid-stream, then, lazily swimming down in amongst the hippo who snorted loudly at him, he presently came out again—dripping ; and slowly walked away across the plain.

For the next two days we saw these fine animals daily and as all were unusually tame I obtained some good pictures of them. Lions were about but these were only heard.

I now turned northward away from Lake Edward and moved along the western side of the Semliki valley. The track we took closely followed the foothills of the Rift Valley Mountains that gradually lessen in height as one approached Mbeni and which here form the boundary of that unknown Bahuni country, with the lawlessness of which, so far, the Belgians have been unable to cope. That this state of things should remain, after so many years of occupation and after the many lawless acts perpetrated by these savages, still stands as a blot on the Belgian administration.

Parts of the bush through which we now travelled on our way to Mbeni were pebble-strewn and others again boggy, as one would expect to find the bed of a one-time lake. The country, too, is overgrown with acacia thorn trees, which at the time we passed by were in full bloom ; the pink, white and yellow blossoms overcharging, with their heavy perfume,

the already stifling atmosphere.* This part of the valley is but sparsely inhabited and food is difficult to obtain but the natives, such as there are, are ruled by Bahima chiefs who possess some fine herds of cattle, so we were again able to procure butter and milk.

The day before reaching Mbeni we took up our quarters for the night in one of the brick buildings attached to the sleeping-sickness hospital. The hospital, which I understand was built partly with the money from a legacy left by King Leopold II and partly by subscriptions obtained for the purpose by the Queen of the Belgians, consists of many rows of double roomed tin-roofed huts, dispensaries, kitchens, and out-houses, as well as a good doctor's residence on the hill above. The place is now in a state of some neglect as it is in charge of a black overseer—there being no doctor available. There were thirty-three cases of sleeping-sickness at the hospital, but as the work of taking blood-smears and searching the villages for infected natives is no longer carried out, this number is no criterion of the prevalence or otherwise of this scourge. The disease is in fact on the decrease in this district and the time opportune to strangle the last bit of life out of the dying germ, if a little interest and energy were once again revived in the combat. Whereas, if left as it is now, this plague may well recur again in as violent a form as previously.

One day, in the gradual opening up of this part of the continent, the waterway of the Semliki will play an important part, but whilst its banks are " fly " infested its use for this

* It is well known to many Central African natives as well as myself that camping under some species of acacia trees results in feverish symptoms the following morning, and is therefore to be avoided.

purpose will be dangerous. The suggestion of spraying chlorine gas over the vegetation on either bank from a barge on the river, may then be tried as a likely means of destroying the dangerous Palpalis tsetse fly, the carrier of the fatal germ.

The Belgian post of Mbeni, situated on the outskirts of the Semliki forest, is some two hours away from the hospital. Here again are evidences of the under-staffing so noticeable in the Congo of to-day, for the work of this important station—the centre of a well-populated district and of a brisk trade in ivory, is carried out by one man. One cannot help admiring some of these men, administering single-handed, as they do, a district as large as two of our biggest counties. Alone amidst utterly savage tribes, the nearest helping hand perhaps fifty miles away, they carry on, undertaking every conceivable task from drill-sergeant to maternity doctor.

This one-man-to-do-everything method has become a joke in the Congo about which a yarn is told of a certain Belgian *Chef de Poste* who happened to have lost an eye and was accustomed to wear a glass one in its place. This man was in sole command of a big district and his work of tax-collecting took him away from home. In his absence his house and effects were of course left in charge of his native servants, with the usual result in such cases that a considerable amount of petty thieving went on in his absence. For a time he was at a loss to know how to stop this, but realising the superstitious nature of the savage, it occurred to him one day when he was about to leave the station that he would travel without his glass eye, and instead he would place it in a prominent position within his house.

This he accordingly did and after telling his black dependants that now, if any more pilfering went on, his watchful glass eye would tell him who the culprit was, he left on his rounds through the district. It is said that on his return not only had nothing been taken from his house but no one had dared venture near the place to sweep it, and the white ants were thoroughly enjoying an undisturbed feed on his best boots. This was a truly African ending to such an experiment, for, at the end, Africa holds the last card!

The official in charge of Mbeni being such a busy man it was not to be expected that the place would present a very smart and well-kept appearance; we were, however, made very comfortable there in the best house in the place and all our wants quickly attended to in the most kindly manner. The post of Mbeni having been established thirty years ago, has a history reaching back into the days of the Arab slavers when a man carried his life in his hand.

Here are buried the remains of Lieutenant Demanie, after the cannibal Bahuni had picked his bones. The tale goes that in the early days, he, together with sixty askaris, made a reconnaissance to the south of Mbeni and were camped for the night on a small river on the outskirts of the hostile country. It is said that a good deal of native beer had been drunk by the native soldiers; however, be that as it may, they were set upon by a horde of savages in the early hours of the morning and were speared as they lay, only one man escaping to tell the tale. After the slaughter a cannibal orgy must have taken place, for parts of the bodies had been cut up and removed, and amongst the remains were found all that was left to bury of Lieutenant Demanie. Sad to relate this officer's death has never been

avenged and to this day the perpetrators of this deed remain unpunished and defiant, as they were twenty years ago.

Again Mbeni was the scene of the murder of a Belgian officer as late as 1918 by one of his own soldiers, and here also the Okapi was first discovered twenty years ago by that keen naturalist and observer, Sir Harry Johnston, when on a visit to the district. The surrounding country is also one of the best elephant hunting grounds remaining in Africa to-day, tusks weighing a hundred pounds and over being still obtainable by the hardy hunter.

Two days after my arrival at Mbeni I commenced preparations for the ascent of the Ruwenzori Mountains, the summits of which in the evening light gleamed golden and unreal, overshadowing, as it seemed—even at a distance of twenty miles—the valley below us. As one stood in contemplation of the surrounding wealth of nature, the great volcanoes to the south, Ruwenzori to the east, and the limitless forests to the west, with all they contained, a quotation occurred to me from " The Great Divide " by the Earl of Dunraven which, although written of the Rockies is equally applicable to the heart of Africa in which we were. For here also " is a region, which contains all the peculiarities of the continent in a remarkable degree and which, moreover, is exceedingly interesting on account of its scenery, geography, its mineralogy and its sport. There it is that great rivers rise, running through every clime from perpetual snow to tropical heat." One thought that certainly this is the geographical centre of Africa, yet another " Great Divide ! "

In a day or two I had gathered all the local information possible from my good friends the Pères Cambron and Lens of the Sacré Cœur Mission, and had completed arrangements,

including the purchase of blankets for those natives who were to accompany me to the snow line. My porters too and headmen, having been selected with some care, I had every chance of bringing off a successful excursion if the weather would only remain fine.

The Ruwenzori peaks, which rise to a height of 16,790 feet, have been partially climbed by Sir Harry Johnston, Douglas Freshfield, the Duke of the Abruzzi and others from the north-east, and from the south by Stairs, Scott-Elliot, Dr. Stuhlmann and J. E. S. Moore, but from the west few attempts have been made. The great explorers selected the eastern side, as here the rise to the watershed itself is more gradual, the ascent from the west being very steep. However my entomological work left me no alternative but to accept the formidable climb from the Congo side, and for this purpose it became evident that the Butahu (or Butagu) Ravine, where the river of that name debouches from the foot of the range, would be the most suitable. This deep ravine, which runs into the heart of the Ruwenzori Mountains, can be easily discerned from many points on the upper Semliki as a dark cleft in the mountain mass.

My sturdy Wanandi porters having turned up for the last muster, their loads were soon adjusted, and four days after my arrival at Mbeni, I found myself bound for the Mountains of the Moon, and with my long butterfly net waving a farewell to my wife.

The Butahu River, which has its source in the summit glaciers of Ruwenzori, falls into the Semliki near Mbeni, and the track to the mountains after crossing the latter river follows the Butahu pretty closely all the way. As the days turned out sunny after the morning forest mists had

¶ The Central *Massif* of the Ruwenzori Mountains, showing part of the Stanley Peak from the steep Western or Congo side.

¶ Approaching the snow-capped Watershed of the Ruwenzori Mountains from the west or Congo side.

dispersed, my collecting work was of a strenuous nature, this part of the Semliki forest being extraordinarily rich in insect life. I, therefore, travelled very slowly, taking three days to reach the mountains, being engaged each night up to the early hours in papering insects.

On my arrival at the foot of the mountain range, I rested one day in the village of the local chieftain to obtain a supply of food and the necessary guides to take me up to the last mountain village of Kalongi. The promise of a blanket to the chief soon had the desired result and by the evening two men had promised their services and we had accumulated a fair supply of food, mostly bananas from the huge groves that here cover the country for many square miles.

From the commencement, where the sparkling waters of the Butahu River tumble out from their rocky bed beneath the first steep spurs, the ascent is very fatiguing, with but little respite from the long interwoven elephant-grass and giant roots, that stick in the ribs or trip the feet of the traveller who essays the unrelenting climb.

After some hours of this kind of thing I arrived at the first stage of the ascent and camped on a high bluff that here forms one side of a giant gorge, at the foot of which, far below, foams our old friend the Butahu. Perched alongside my tent was the solitary hut of a black mountaineer, who was engaged with his friends, or relations, in cutting down and clearing a forest of immense wild plantains to form a plantation for beans, which seem to be, with bananas, the staple food of these natives. To make sure that the food-supply would not run out, both at this camp and the next, I bought all the food that my guides could rake in from the hillmen round about.

Getting an early start on the following morning, we continued to clamber up the throat of the ravine, until the tiny village of Kalongi was reached at 7,400 feet above sea level. These huts, situated in the bamboo zone, are perched at the foot of the central mass of the Ruwenzori Mountains, and are the last habitations to be found before tackling the heather-clad slopes that tower into the clouds above them.

Having to make preparations for the four or five days that I wished to spend under the snow-clad summits, I now selected fifteen of my best porters to carry the necessary loads to a saddle that could be discerned high above us, and on which I proposed to make a half-way camp. There were eight loads of food and a big tent for the porters; the remaining men were to carry my tent, bed, blankets, food, cameras, etc. My cook and one native collector were to accompany me. By night-fall all was ready for an early start the following day; the weather, on which so much depended, fortunately remained fine.

So far, we had followed the steep-sided embrasure of the Butahu Ravine, but the next morning, after sending my three new Kalongi guides to cut a path in advance, we struck off to the north at right angles. This took us along the sharp-crested spur that divides the Kanyamwamba from the Kamsonsa River and which runs up, at a very steep angle, to the foot of the lesser peaks facing the central *massif* of Ruwenzori, and so on up to my proposed camping place.

At first the narrow track wound through the bamboos but presently came out into a sub-alpine region. Here the heather brush-wood stands ten to twelve feet high for the most part and alternates with older patches, tree-like

in growth, with stems many inches in diameter, hung with waving lichens a yard or more in length. The ground beneath is covered knee-deep in the most wonderful pink and green mosses, through which we struggled with increasing difficulty. I may say here that both my guides and carriers led me to believe that water was scarce on the mountain-side, and this is in part true if the sponge-like mosses are not reckoned with. Handfuls of these beautiful growths will produce half a pint of water at one squeeze, so no fear need be felt on this score.

As I struggled and stumbled, pushed and pulled my way up through the rough heather stems, it became evident that the track I was following, although overgrown, had been made and used by some previous travellers, therefore after some hours' climbing, eased by frequent halts to get my breath, I was not surprised to find myself in an old camping place, situated on the saddle that I had seen from below, the elevation of which was about ten thousand feet. I had now reached the foot of the secondary peaks that surround the snow-capped summits of the range, and at intervals when the swirling mist cleared, these could be seen—after all our climbing—still thousands of feet above us. Towards evening the mist cleared entirely, giving me an opportunity to photograph portions of the snow-cap.

As the site of this camping place was the bed of a primeval heather and moss forest, the two tents stood on a kind of superstructure formed by accumulated layers of ancient heather stems and moss pads, which at any moment might give way beneath the tread and let one through into deep holes beneath. Some of my natives in fact used, as a sleeping place, a kind of burrow or cave formed below this mass of

old vegetation, preferring it to the big tent I had been at such pains to erect for them, and from which I named the place Big Tent Camp.

I now selected eight of the strongest men from my bunch of carriers and instructed them to be ready the following morning to accompany me on the last climb to the top of Ulimbi Mountain, supplying each with a blanket apiece. The night was cold, but by no means uncomfortably so, and although the day dawned mistily as is usual at these elevations, there was promise of fine weather in the snatches of sunlight to be seen, as we ploughed our way up the last increasingly steep ascent.

A heather fire is the last thing, as I thought, that would have to be encountered in this damp and cold region, but as in Africa it is the unexpected that has to be looked for, this is what occurred and nearly proved our undoing.

Being careful to husband the strength of my remaining porters and the morning being extremely cold and misty, I allowed them at frequent intervals during the ascent, to light fires of heather sticks and warm themselves. I was, therefore, a considerable distance ahead of my men and had just reached a most wonderful alpine garden of senecios and lobelias, and, this being the first of its kind I had ever seen, stood examining the beautiful foliage, oblivious to all else, until I became aware of what I took to be the roar of the wind. Not taking much notice of this at first and having my net with me, I set about catching some of the diurnal moths that abound here and whilst thus engaged I caught sight for the first time, of a sheet of flame and smoke below, which, fanned by the strong wind was tearing up the slope towards me, making the crackling roar that I took to be

¶ A corner of one of the Alpine Moors, high up on the Ruwenzori Mountains, close to the snow-line, at 12,500 feet above sea-level. The plants are Senecios, Lobelias, and Everlasting Flowers, with Alchemilla Cinerea covering the fore-ground. This is the home of a pair of the beautiful birds named *Nectarina johnstonii* [after their discoverer, Sir H. H. Johnston], which were flying from flower to flower when the photo was taken.

¶ The Heather Fire, described by the Author, approaching the green Senecio and Lobelia zone, which averted a disaster. The fire occurred at an elevation of over 12,000 feet above the sea.

the wind itself. Realising the cause in the fires made by the porters, and the danger that threatened in their wake, I and the cook (it's always " the cook " in Africa) who had turned up at that moment, made the best of our way back through the heather to encourage the men to reach the green and open senecio zone, where the heather finishes and beyond which the fire would be unlikely to spread.

The porters, now realising their danger, clambered along for all they were worth, and being lightly loaded managed to reach safety. But only just in time, for shortly afterwards the fire came roaring by, licking up the giant heathers with flames that reached to twenty feet and more. It spread, as I found out afterwards, right into the fields of senecios and lobelias above us, leaving everything withered and smoking; the tall plant stalks alone remained, gaunt and black against the sky.

We came off lightly, considering the extent of the conflagration, with one carrier burnt, holes in various garments and one butterfly-net damaged.

It was now after 3 p.m. and what with the excitement of the fire and the stiff climbing, the porters were tired out. I therefore gave instructions to one of my headmen to pitch the tents where we were amidst the senecios, and to collect all the firewood available; meanwhile, with the guides, I determined to gain the last ridge that I knew must now lie within reach.

Accordingly I set out and whilst ascending the last slope, known as Ulimbi, I was able to realise the full extent of the recent fire, as I passed the blackened remains of what were, a few hours since, glorious meadows of giant groundsels and lobelias. However, I was soon over the burnt portion and

found myself crossing, in the direction indicated by the guides, the most wonderful alpine moor that can well be conceived. The groups of fantastic vegetation gave me the novel feeling that I had dropped on to some new planet, Mars, as it might be, who knows ?

Unless there is a very clear sky, which is an exceptional occurrence at this elevation, the snow-clad *massifs* of the Ruwenzori Mountains in their entirety remain unrevealed to the hardy climber until the very last ridge is mounted and the last bush turned—as if the Mountains of the Moon were loth to reveal their secret. But to the traveller who has the fortitude and good luck to gain the last eminence on which I now stood there is a sight to be seen worthy the effort. For one reaches the edge of a precipice and gazes across a dark and narrow valley at an unequalled panorama of glistening glaciers and mighty snow-caps, their whiteness enhanced by black projections of rock and ridge ; this too, framed in a setting of senecios and lobelias, everlasting flowers and alpine plants of many species !

In spite of the approaching mist I at once set about the work of getting both my cinema and stand camera in position, but as a fall of snow and sleet commenced shortly after, driven by a gale off the snow-fields above us, my time was wasted, and I packed up and prepared to return to camp. On my way thither, the guides led me to a lower eminence where lay two corked bottles and one glass tube. On examination, one bottle and the tube contained records of visits made by one Englishman (Mr. J. S. Coates of the Anglo-Belgian Boundary Commission, 1907) ; three Belgians—Mons. Dierkz, Chef de Poste, Kasindi, Père Lens of Mbeni and an ornithologist, name undecipherable ; and two Germans,

Drs. Schubotz and Nildbraed of the Duke of Mecklenburg's Expedition, 1908. The second bottle, although strongly corked, contained a small amount of water in which floated what had once been a piece of paper; how such an amount of water accumulated in one bottle and not in another it is difficult to say.

After nearly losing ourselves in the dark, the two guides and myself finally arrived at the camp and much to my chagrin I then found that the carriers had collected little or no firewood, and neither had my instructions been carried out with regard to the canvas covering I had brought for the men: this lay flapping in the wind, affording no kind of protection in the event of a blizzard. Luckily this night was fine, but if we had then experienced the hail-storm that set upon us the following night, without doubt every man would have been frozen to death. As it was, the early part of the night saw the fire-wood all finished, with the result that two of the carriers were unable to move in the morning, in spite of their blanket coverings, and had to receive stimulants to bring them round.

Although not realising it at the time, this was Christmas Eve, and it passed uneventfully, save for the attentions of a large fox-bat around my tent and the prolonged booming of an avalanche or landslide in the valley near by.

Christmas Day can be spent midst snow and ice, even on the equator, by those who would wish it. It was no plan of mine that I did so on this occasion—it just happened, and as the climbing of the Ruwenzori Mountains was in a way the culminating point of the expedition, I took it as a good omen. The day turned out fairly fine, although it was not until eleven o'clock that the mists began to clear,

necessitating a wait of many hours to obtain sufficient illumination for good photography. About midday the sun began to show himself and I was able to obtain, for the first time, an uninterrupted view down into the near valley, at the foot of Mount Stanley and across the larger one that separates the Baker range from that of the Margherita and Stanley peaks.

That morning I had again crossed the moor but by a shorter route, and stood on a lower ledge of the narrow and precipitous valley of the Kamsonsa that I had reached the afternoon before. Here I descried, for the first time, buried in the depths of the valley, a very gem of a lake, the glaciers feeding its black and mysterious waters being mirrored on its motionless surface ; a lake which is held in great reverence, so I am told, by the local hillmen.

After an early breakfast that morning, I had sent the carriers down to the Big Tent encampment with my camp-kit, keeping with me three guides and two porters.

At this altitude of over thirteen thousand feet these men were all affected with mountain sickness, three badly so, in the rarified morning air. One of the local guides, a strapping big fellow, was affected to such an extent that he could only get his breath in gasps, and being on this account quite useless I sent him down the mountain after the other porters. I, myself, felt this difficulty of breathing, but much less than the natives and for a time I was compelled to carry my heavy kine-camera, as they appeared to be unable to do so. After using up the greater part of my cinematograph film and exposing a number of plates on the snow-peaks and the surrounding alpine flora, I was able to give further attention to my surroundings which were of the utmost interest.

As one's gaze took in the comparatively easy ascent of the snow-capped summits from this quarter, it struck one as curious that the scaling and exploration of the great peaks had always been undertaken from the east side of the range, for without doubt no great difficulties present themselves, from where I stood, to an expedition equipped with the barest necessities for a short alpine climb.

Insect life in these charming solitudes was fairly abundant, but much to my disappointment not a single butterfly graced the scene. Birds too were conspicuous by their absence, with the one handsome exception of pairs, male and female, of the beautiful long-tailed and long-beaked *Nectarina johnstonii*, feeding on the lobelia flowers. Neither eagles nor hawks were to be seen, although, judging by their small burrows, a small rodent was common. I had hoped to come across some of the large flowering proteas similar to those found on Kilimanjaro but saw none; otherwise there was a mine of interest for the botanist.

The afternoon being now well advanced, to my great regret I had to think about returning to the Big Tent camp if I was to reach it before dark. If I had had more food for my men nothing would have given me greater delight than to spend a week in exploring these unknown solitudes, but as it was, not only the food question but the special entomological work on which I was engaged would not admit of a longer stay and I had, therefore, reluctantly and with many a backward look to turn my steps downhill. As I and my four followers commenced the descent, the ominous growlings of distant thunder made themselves heard, and the sky being now overcast it behoved us to hurry on if we were to reach the lower camp before the storm broke.

The downward track through the burnt heather was now easily discernible after the passing of the porters up and down, but nevertheless, and in spite of my putting my best foot foremost, I was only able to make slow progress down the steep moss-covered crags : with the result that the storm reached me some time before I sighted the camp, and broke in a fury of heavy hail, that rattled on the heather round about in an icy tornado. In less than no time the innumerable cavities and depressions in the moss round about were filled with hailstones as big as pea-nuts.

In the middle of this tempest I gained at sundown the welcome shelter of the tents, and was soon getting outside a jorum of hot coffee and cognac. My four men, handicapped by the heavy cameras and tripod were not so fortunate, and only three turned up an hour later ; the remaining man with the heavy kine-camera being unable to reach us until eleven o'clock that night. When darkness set in I began to have grave doubts concerning the safety of the fellow and the storm abating somewhat I turned out two men, clad in blankets and carrying a lantern, to go and search for him. After much calling, some hours later, he was found under a large boulder and eventually brought down ; the camera case was soaked through with wet but otherwise had come to no great harm. Thus ended Christmas day on Ruwenzori !

The night that followed was bitterly cold and only by piling over myself every available material that I possessed could I keep warm ; occasionally I hugged myself with satisfaction at the thought that all my aims had been successfully accomplished and that it only remained for me now to rejoin my wife at Mbeni.

In the morning, hailstones still covered the ground and

could be picked up in handfuls. Before leaving, it was interesting to note that my followers, to a man, picked little bunches of heather and other plants, in the same way as a European might, to bring luck or guard against evil. It may even be that in the remote past this superstition, held by both black and white alike, sprang from one source—the monkey-man of Equatorial Africa.

So now it was "all over bar the shouting." Ruwenzori had not altogether let me down lightly, as I had been hailed, snowed and rained upon, and nearly burnt up. I was, however, amply compensated, for I had made a fine collection of insects, my pictures turned out well, and I had obtained a unique cinematograph film of the snow-peaks and their alpine surroundings.

Collecting insects *en route*, I slowly returned to Mbeni in time for a New Year celebration; having been absent thirteen days.

CHAPTER XI

OKAPI HUNTING WITH THE PYGMIES OF THE SEMLIKI FOREST

" Fronting us lay a patch of tenderest green
With tiny, dotted huts of sober grey—
Most quaintly Quaker-like amid a scene
Where all the rest wore Nature's fête array,
And girls with swaddled babies on their backs
Passed and repassed along the forest tracks."
From " Songs out of Exile," by Cullen Gouldsbury.

THE far-reaching extent of the Ituri forest protrudes a small part of its eastern boundary over the Congo-Nile watershed, into the central portion of the narrow Semliki valley below. The southern boundary of this forest area stands without the gates, as it were, of the Belgian post of Mbeni, so we found ourselves almost immediately beneath its cool shade as we left this station to resume our travels.

We now entered the portals of the vast forest region of West Africa—a vegetable kingdom that was to hold us in its embrace for over four months. A region that affects profoundly all human or animal life within it ; whose sombre shade breeds the dark germ of cannibalism, and unhinging minds only half-human, conceives such monstrosities as the Leopard sect of the Anyioto or the burial murders of the Baluba ; a region, too, that distorts the stature and pales the face of nature. Here the world is buried in grotesque growths ; a plant world where giant and majestic trees jostle one another for breathing space, where a continuous war is being waged and living, dead, and dying trees litter the battlefield —some standing, others fallen, but all in the deadly embrace of elegant and fantastic parasites of fern and liana.

Okapi Hunting

The fact that the rarest insects and the rarest animals may usually be found together, induced me to take a north-easterly direction from Mbeni, up on to the Congo-Nile watershed, where the Ibima and Itoa Rivers have their source and where that shiest of all animals the okapi (*Ocapia johnstonii*) is to be found, a skin of which I had hopes of adding to my collection.

After three days the winding forest track led us up to the village of a Wanandi chief called Moera, a cunning old rascal, who in his younger days has been a blood-thirsty villain; but to-day his village has become the centre from which many a hunt for the okapi has been set afoot by big game sportsmen, adventurers, and museum collectors from all over the world, in fact ever since the existence of the animal was first discovered in this part of the forest by Sir Harry Johnston. Old Moera has a thin veneer of civilization due to his contact with white men, but this is scarcely skin deep and, as Père Lens afterwards explained, what he and his rival cannibal chiefs had done, and in some cases still did, would not bear print. Our friend the Catholic Father knew more than he would tell, for later when he stayed with us in our camp he persistently refused to shake hands with Moera, counting him as quite beyond the pale of friendship. To see the chief's efforts to induce the Father to shake hands with him were ludicrous; his importunities were, however, quite unavailing on this occasion.

As Moera's village stands right on the watershed and the forest has been cut away round about, glimpses of the Congo slope on the one side, and the deep Semliki valley on the other, can be obtained. We made our camp on the edge

of the surrounding banana plantations, and within the barricade of giant trees felled one across the other as a protection for the plantations against raiding elephants.

The old chief had received news of our coming and must have looked upon us as "pigeons to be plucked," for after meeting him and at the subsequent palaver nothing under two trusses of calico would tempt him to help us and organise the Pygmies for an okapi hunt. Subsequently, however, a few things changed hands between us, including a much desired coat and trousers (an old hat we held over until the hoped for okapi was secured), which brought about an amicable settlement. Presently, therefore, the big village drum beat out the message across the forest that a white man and his *bibi* (lady) had arrived and wished to talk to the chief of the Pygmies. This "call" was repeated several times during the night, not only on the drum but by blowing a series of blasts on a horn hollowed out of an elephant's tusk. Both methods of communication are in use by the local Wanandi and Wambuba, but trumpet signalling is the only one in use,* and is generally understood by the Pygmies.

Nominally under the sway of Moera, as they roam through his district, but in reality the original owners, and indigenous race, of the Congo forests—and engaged in stealing from the local plantations, hunting, trapping and grubbing roots, and never camping for more than a few days at a time in any one place—are four clans of Pygmies, known as the Wambute. At times when they are hungry or in want of a bit of old iron, tobacco, or what not, they will work for the

* The Wambute themselves carve ivory trumpets which they decorate with lizard skin and elephant hair and wear hanging behind their backs.

¶ Our Camp in the forest at Moera's Village.

¶, Wambute Pygmies of the Semliki Forest, 4 ft. 4 in. and 4 ft. 5 in. in height respectively.

Wanandi and other tribesmen in the banana plantations. These little men, who by the way are greatly respected by the dominant negroes for their power of retaliation when occasion arises, are indispensable when it comes to okapi hunting, and the first thing to be done is to solicit their help. As they are inordinately fond of salt and as they see very little of this commodity, their aid is easily obtained by the offer of a few pounds of the coarse article.

In answer to Moera's summons, the following day brought the chief of the Wambute* and six other Pygmies, some of them with the face whitened with kaolin—forming a very effective mask—and others with only half of it painted, as is their custom when outside the confines of their forest home. Both my wife and myself looked at these sturdy little men with undisguised interest. What need to look further for the Missing Link when he stood before us! Short legs, long arms, heavy torso; short neck, rounded head, deep set, penetrating, see-in-the-dark kind of eyes; square long lips, protruding jaw. The ape was all there, up to the hair, which was discernible in some cases over the entire body of these dwarfs.

Later on I went to take cinematograph films of the Wambute, and made a surprise visit to one of their largest camps, an account of which I have given towards the end of this chapter. The work in hand at this meeting, however, was confined to raising their enthusiasm over the hunting down of a *kwapi* (the name, by the way, by which the animal

* As I knew that Captain Harrison, twenty or more years ago now, took some of these pygmies back to England with him to be shown at Earl's Court Exhibition, I inquired about them, but was told they were all dead. For many reasons I believe the forest dwarf to be short lived!

is known in these parts and from which its present scientific name is derived).*

As Moera was the only one who could speak their language, this I left to him; he seemed to promise a lot but gave little away and the palaver took some time. It was, however, eventually concluded satisfactorily for the Pygmies by the usual distribution of salt.

I gathered that the plan was for the Wambute to search the forest in all directions, and that when an okapi was located the fact was to be signalled by a special trumpet call to bring along the rest of the clan with their dogs and so start the hunt, which might last several days or even weeks.

As I myself witnessed one of these hunts when out collecting in the depth of the forest a short description of it is worth giving.

The first intimation I had of the coming chase was an exceedingly melodious piping away in the distance, which on becoming more audible as it approached resolved itself into a series of flute-like notes of considerable volume, but very pleasant to the ear. These were augmented by varying tap-tapping noises; but nothing was to be seen and no other sounds were heard! Knowing from the native who was with me that this was a band of Wambute out hunting, we stood behind trees to watch, letting the chase go by. However, as the foliage was very dense, little could be seen, but presently as we watched out came a little yellow dog scurrying

* The Okapi is known by the name of Ndumbe in the northern extension of the Ituri forest. George Grenfell, the great missionary geographer discovered the okapi in the region south of the middle Aruwimi River in 1902, and recorded its local name as Ndumba. The range of this primitive giraffe seems to extend from the Mangoma country (5° S.Lat.) in the south, to the Aruwimi basin in the north, and possibly westward, *north* of the Congo, to the vicinity of the lower Mubangi River.—H. H. J.

along the track from which we had stood aside, the bell (made from a hard seed-pod with two clappers) attached to its neck tap-tapping as it ran, and then, following it, a naked Pygmy holding a little bow and a sheaf of arrows, both soon disappearing however as quickly as they had come. The fluting was continuous and as far as I could judge was the little men's method of keeping the centre of a half-circle. They evidently passed through the forest in this formation, with the idea of surrounding anything their dogs tracked up for them ; the Pygmy playing the flute being guided to a certain extent by the bells of the dogs.

The forest dwarf is an adept at " calling " animals, especially I believe the chimpanzi, and will sit alone with his bow and arrows imitating the cry of this ape or some other animal, until one approaches closely when he lets fly a shaft and kills it more often than not, for they are expert marksmen and use poisoned arrows. I think, however, they kill very few elephants without assistance from the other forest negroes, the game being too big for their primitive weapons, but they certainly ably assist their more robust brethren in arranging traps and pit-falls. The fierce but pygmy red forest buffalo is perhaps their *bête noire*, for this sturdy beast is the " devil and all " when aroused, making even the bird-like Wambute " step lively " on occasions. Later on when nearing the Ituri River the report was brought to us that one of these animals, after being wounded, had put five Pygmies right out of action by goring them, three of whom had not survived. Most Pygmies are extraordinarily agile tree climbers (a very necessary accomplishment, by the way, for a grey parrot snarer), but I am unable to give credence to the reports one reads of tree-living Pygmies,

resembling large apes: never having seen or heard of any such during my wanderings in the Congo.

Our meeting with the Pygmies concluded, they decided to celebrate our arrival and their departure for the chase with a dance which commenced after sundown. This proved exceedingly entertaining to watch in the glow of the firelight, and was moreover accompanied by the most melodious music I have ever heard at any native dance in Africa. It was the same mellow "Pipes of Pan" music that I heard in the woods when the Wambute were hunting, but this time harmonised with their peculiar intonations, accompanied by a small drum. The forest dwarfs I put down as the best native musicians in Africa.*

Before describing the small measure of success that came my way in my search for an okapi, a few notes on this interesting ruminant will I hope, interest the reader, for I have frequently been asked even in Africa: what is an okapi?

Belonging to the same family as the giraffes, the okapi has diverged considerably both in form and colour, under the influence of its forest surroundings, from its well known long-necked cousin of the Acacia plains. In size it resembles a large donkey, the female, which is hornless, showing a tendency, almost unique amongst mammals, to grow larger than the male. Its body colour is a rich chocolate with a purple tinge, the legs being striped black and white, and the latter colouring continuing well up the buttocks. The tail is comparatively small, ending in a tuft of bristle-like hairs. The head, which in the males is surmounted with a pair of

* I am informed on good authority that some pygmies when dancing beat their chests with their hands, making a loud clopping noise, similar to a gorilla or orang-utan.

small skin-covered, bare pointed horns, is mostly greyish, sometimes with a yellow tinge ; the ears, however, are dark brown, large and sensitive like those of the tragelaphs,* and formed to carry to their owner the merest suggestion of a footfall or snapping twig. The head has the rounded and pointed appearance of the giraffes—the nose, however, is rather snout-like—the tongue long and prehensile. The dark eye is small and not "full" like an animal from the plains. The neck is only slightly elongated, but with a heavy base and high withers. The hide is remarkably tough and the hoofs and spoor resemble those of a small ox. The meat is considered a great delicacy by all the forest tribes.

The habits of the okapi resemble those of the bongo, the kudu, and the bushbuck, and like these very shy animals more often than not it is found alone. It is partly nocturnal and fond of feeding in the late evening or at night when the moon is out, and similarly with the tragelaphs its food consists of fruits, flowers, bark, and some kinds of decayed wood, as much as succulent shoots of trees and herbage. There is no record as far as I am aware of the okapi uttering any kind of call, either of alarm or otherwise. From observations made on live specimens captured in the Congo, it has an amble like a giraffe, but I am assured by the Pygmies and by white men who have seen them, that when alarmed it appears to *bound* through the forest undergrowth and at an incredible speed.

It is said that the first record of the existence of the okapi is contained in drawings found on the walls of an ancient Egyptian temple. Be that as it may there is no zoological

* Members of the eland-kudu-bushbuck sub-family.

find within recent times to compare with Sir Harry Johnston's discovery of this unique animal in the years 1900-1901.*

* The first hint which set my imagination reflecting on the possible existence of some large, strangely-marked ruminant in the heart of Central Africa, in the Congo basin, was derived in my boyhood from a book on strange beasts which might be even yet discovered in the unknown parts of the world, most probably of all in the Congo basin and the unmapped regions between the Cameroons and the East Coast. The book was written by Philip Gosse, the father of Mr. Edmund Gosse; and I think it was given to me as a school prize. It described amongst other creatures a unicorn, attributed to the inner regions of Central Africa, some brightly-marked and coloured creature about the size of a horse; and its descriptions were based on the stories of Dutch, English and Portuguese explorers of the seventeenth and eighteenth centuries. When I first met Stanley on the Lower Congo in 1882, and still more when I spent some weeks with him on the Upper Congo in 1883, we talked about this book of Philip Gosse's, and he spoke with great stress on the most likely region in all Africa for the occurrence of marvels in land-features, in human races, and in the existence of strange mammals and birds. This he described as " the region of the Blue Mountains," the country immediately south of the Albert Nyanza, west of Uganda, and on the fringe of his newly-discovered Congo basin. " If ever I get the chance of a free choice of exploration, it is to *that* region I will return. It holds, I believe, the greatest marvels of Africa." Four to five years later he got the chance. He directed his steps thither in his attempt to relieve Emin Pasha. He discovered Ruwenzori and the Semliki, Lake Edward, and the vast forest of the north-east Congo basin. He also found traces of the okapi—" a large donkey "—and recorded them in a foot-note in his book. About that time the work of Wilhelm Junker, a Russo-German explorer of the Bahr-al-ghazal, was published, and in it appeared a few paragraphs indicating that he had actually seen a skin or two of this strange ruminant (the okapi) in the neighbourhood of the Nepoko River. Soon after I was appointed Special Commissioner to proceed to Uganda I paid a visit to Stanley to say good-bye, and we talked of the strange fauna that might inhabit the wonderful forests of north-east Congoland. At his house in Whitehall Terrace we once more discussed what his large " donkey " of north-east Congoland might be, and I promised him to make it my endeavour to find out. Early in my residence in Uganda I was thrown much into contact with Congo pygmies; they eagerly confirmed Stanley's stories and eventually led me to the discovery of this forest-dwelling giraffe. I think it quite possible that the okapi, like the forest hog, also mentioned by Mr. Barns, may have extended its range right across Central Equatorial Africa at one time, to the hinterland of the Cameroons, and so have furnished the natives with accounts of a unicorn-like beast in the dense forest which were transmitted to the Dutch explorers and geographers of Western Equatorial Africa in the eighteenth century. George Grenfell, the great missionary-explorer of Congoland, independently discovered the opaki near the Nepoko River a year after I had found it near the Semliki. But this fact did not become known for several years, till his journals came under my inspection after his death.—H. H. J.

In regard to it, it is curious to reflect that although Congo-land had been occupied for many years and the Ituri forest penetrated in several directions, this animal escaped discovery for so long a time. This is the more to be wondered at, as the forest negroes have been in the habit of wearing belts and bandoliers made from the striped leg skins of the animal for generations past. It was on the evidence of these native ornaments that Sir Harry Johnston eventually based his researches. May it be that there is still something startling to find in the Congo—a really pygmy elephant, a dinotherium, a water rhinoceros or perchance a brontosaurus! Even as I write comes the news of a five-tusked elephant shot by Monsieur Pilet in the Uele District. The Belgian Congo—"The Pearl of Africa"—has, I feel sure, a zoological surprise packet still hidden away awaiting an opening by some lucky adventurer!

Although not realising this when at Moera's village, the range of the okapi is more extensive than is commonly supposed and I should have accomplished my object more successfully had I postponed my search until I reached the north side of the Ituri valley, where the animal is fairly numerous. In the Wamba and Nepoko districts no difficulty will be experienced in securing a specimen, although the actual killing of the animal will have to be left to the native hunters—it being impracticable for a white man to hunt in the tangled undergrowth in which it lives.

Fortunately my time was fully occupied in collecting insects—in search of which I made excursions in many directions—for day after day went by and no okapi turned up, until I began to lose hope. To make matters worse, an obscure epidemic disease broke out amongst our porters,

and in a very few days we had seventeen of them sick on our hands, one of whom died. Very naturally the rest of the men became nervous and wished to be paid off, leaving me no alternative but to comply with their request. In a most kind way the Chef de Poste at Mbeni, to whom I wrote for more carriers, sent out one of his soldiers to collect others for me, but as luck would have it he too was taken suddenly ill the day after he reached our camp, together with one of the new porters he brought with him, both having to be sent back strung up like pigs in impromptu hammocks, for the disease, which was a form of Spanish influenza, took them in the legs and they were unable to walk.

In Africa the truth of the old saying, "it never rains but it pours," is often very forcibly brought home to one and in this case it was literally true, for at this time we experienced the most terrific thunderstorm and tornado that it has ever been my misfortune to encounter. Due no doubt to the mantle of ice and snow covering the equatorial mountains of Ruwenzori, the elements are continually at war in this region and bad storms and electrical discharges are of frequent occurrence. This electrified tornado, however, was half-a-dozen thunderstorms rolled into one, its effect being felt half across Africa, for later, news of the damage it wrought at Kampala in Uganda reached me where it was described as "the worst storm ever known." It approached from the north-west, at first painting the entire landscape with a sickly yellow light, and bringing with it an ominous sense of impending disaster felt by the entire living world about us and warning Dame Nature to wrap up tight her cloak. The large blue turaco took his last run along the big branch and ceased his noisy crowing; the cheery grey parrot shut up whistling

¶ The Author, before leaving Mbeni to climb the Ruwenzori Mountains.

¶ A Wambute Pygmy suffering from leprosy (right hand and cheek). He carries his quiver slung on his back.

¶, Pygmy Women and Children in their Forest Home.

and "cocked" that all-seeing eye of his; that uncanny night-crier the Potto lemur turned in his hollow tree and thought (like ourselves, only for a different reason!)—if he woke up at all—that "Thank goodness, this hasn't come at night!" The chimpanzi sought his most protected "platform," and crossing his arms formed that natural hair cloak of his, from off which the rain would presently run, and the monkey families huddled close together beneath the great clumps of elephant's ear fern. The one animal perhaps that recked nothing of the storm was the jaguar-like forest leopard of the Semliki*—callous, collected, cruel, caring nothing for the giant breath that, as yet, only whispered among the huge creepers about him or for the pealing thunder of the coming tempest. He thought this a fine opportunity to steal a march on his implacable, albeit more sensitive enemies, the bandar-log crouching on high beneath the fern.

We hammered in our tent-pegs and packed our belongings as best we might to weather the hurricane that was now upon us. For half an hour or more we seemed to be engulfed in a whirlwind, round the edges of which the shafts of lightning chased one another, tearing and splitting the tall trees around us, with blinding flashes of electricity terrifying to witness. Hardy as my wife had become, and strong man as I am, we both felt, after it was all over, that we had had the breath knocked right out of us and that this was the occasion for a little stimulant, in which the reader may rest assured we both indulged.

With us at this time was a fat, pleasant Wanandi native whom we had engaged at Ruchuru on Lake Edward as my

* A remarkable sub-species of leopard discovered by the Duke of the Abbruzzi's expedition.—H. H. J.

personal servant. After some years' wandering with the Belgian forces during the war and having visited such places as Dar-es-Salaam and Tabora, we had brought him back to his home near Mbeni where he was well known to the Catholic missionaries. We had become quite attached to this pleasant native, so in the light of the event that followed it was a little bit pitiful to remember his answer to the White Fathers when they expressed surprise that he had brought back nothing with him after so many years' absence. It was to the effect that he had saved no money and had nothing at all, but he had seen "life," having smoked the white man's cigarettes and cigars and having tasted the white man's beer and whisky at Dar-es-Salaam.

When he left his home sleeping sickness was very prevalent in the Mbeni district, and this native, so the Fathers told us, was supposed to have had it, but the germs being dormant, as occurs in some cases, the disease acted slowly. On this evidence therefore it seemed that it was his fate to come home with us to die of this scourge.

For some weeks past it had become increasingly evident that Cyril—which was the boy's name—was becoming fatter and fatter, in fact, he became elephantine (for a negro). This apparently was the last stage of the disease with him, for he went sick and was dead in three days. With this native and the porter who succumbed earlier in the week, we had a practical illustration of the Wanandi's superstitious dread of any man dying in a house. Both poor Cyril and the dying porter were carried out of the hut they occupied when at their last gasp, so that they should not die under its roof.

This "chapter of accidents" was rather disconcerting

and inclined to get on the nerves ; moreover, the old chief Moera reckoned, and quite rightly, that we had brought trouble to his village, so he was as fed up with us as we were with him—we were irritable and so was he ! A fruitful cause of irritation (to my wife at any rate) was the everlasting chattering and shouting that went on in the village court-house over which Moera presided, being close to our camp, it worried her a good deal. She sent out a native therefore on one or two occasions with instructions that the hubbub should cease, and that the cases were to be tried with less noise. I being away on a certain occasion when the row going on was past bearing, owing to the introduction of *pombe* or native beer into the deliberations, and Moera reluctant to stop the noise, she decided to take the matter into her own hands, and as the reader may judge, to some purpose, for going to the entrance of the place she harangued old Moera and his assembled savages in bad Swahili, but with such good brandishings of a lighted fire-stick she held that she cowed the lot of them, emphasising her wrath by throwing the stick into the middle of what were, for aught I know, the most important witnesses and village elders. After this we had some peace, if we omit the early morning hours before the village he-goat went forth to graze, and the beating I had to administer to two natives who threw banana skins on our tent, and the row we had with the cook for stealing the salt, and his eventual desertion, when he left us to the mercy of my insect collecting " boy " who had then perforce to act as cook, and last, but not least, the nerve-racking tapping of the bark-cloth makers.

About this time, and on to this slightly unhappy horizon, came a half caste Pygmy-Arab to cheer us up—his name

was "Amissi" (Hamisi). He was an Imp of Darkness not more than four feet two inches in height, with a small beard, and his round intelligent head surmounted by a well rolled turban. He was a local chief, and like Moera had several clans of Wambute in his "district," and moreover appeared to be none too friendly with the aforementioned gentleman. Coming up to our tent he salaamed and in a few words stated that he wished to speak to me alone. His 'cute manner gained my confidence at once, so nothing loath I sent everyone away.

As I had decided to resume our northward journey within a few days, the news he communicated to me was no less astonishing than delightful to hear. I am sorry to admit that my Swahili is imperfect—it is of the Congo variety known as Kingwana—but I gathered this much, that an okapi lay dead in the forest and that if I would come with him immediately he would lead me to it so that I could take its skin. There were conditions of course—considerations—which the wily Amissi tried to gauge correctly from my elated demeanour or otherwise; I tried not to be elated but it was a hard job after a month's waiting joined to our other troubles.

I had offered a two hundred francs reward and a load of salt for the first *kwapi* skin brought in, so this was the bargain I struck with Amissi. That finished, we set off into the forest at a speed that barely kept pace with my impatience. After a good two hours' walk along an elephant path, and after meeting a sour-faced dwarf who apparently had been waiting a long time for us, we turned aside into the tangle of creepers and cardamoms,* through which we struggled. This new

* These aromatic plants form the greater part of the forest undergrowth; they have a brilliant red seed-pod growing from the root, which is much sought after by many animals for food.

C. Female Wambute Pygmies, 4 ft. and 4 ft. 2 in. in height respectively. The woman on the left exhibits considerable steatopygia, like the bushmen of South Africa.

¶, The skins of a Gorilla and an Okapi.

track led us across several boulder-strewn streams, beside the last of which Amissi pointed his thin finger at some deep spoors scattered over the heavy loam, using the words *chui* (leopard) and *kwapi* frequently when speaking. Greatly interested I examined these tracks very closely, also the quantity of broken twigs and small branches that now strewed the trail we followed, some of the latter having bits of hair adhering to them. Having seen similar indications in the bush where a lion or leopard has had a " kill," I at last tumbled to the word *chui*. Of course, *now* I knew—a leopard had killed an okapi ! Shortly afterwards our Pygmy guide led us to the dead animal itself, a large female, which judging by the severe clawings and bites she had sustained must have put up a plucky fight for her life. The Wambute who appear to know everything that goes on in the forest, had got wind of the " kill " and that morning had wounded the leopard over its prey without however killing it. The stomach of the okapi had been torn out and partly eaten, and the head and neck were useless for mounting purposes, but here was the animal I sought. I had therefore to be content with what the leopard had left me and return to camp with the skin. As I trudged home my imagination painted a most wonderful picture of the struggles of this okapi to free itself from its assailant, all the bright colours and tropical surroundings were there : the golden, spotted leopard, the chocolate-purple of the okapi with its black and white markings, the shaft of sunlight through the trees. What a picture Africa can produce at times ! I gained our camp that evening highly pleased, for with the okapi and gorilla trophies I had obtained records of the two rarest animals in Africa.

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The anthropology of the Pygmy races, and of those known as the Wambute, has been exhaustively dealt with in many books, and it is not therefore my intention to write a great deal about them. When I paid a visit to their camps in the forest it was with the intention of taking moving picture studies of the Pygmy at Home, an intention to a certain extent original (one must be original in these days). For, whereas their life's study has been made some time ago, their family life has seldom been presented to the public exactly as it is and as the kine-camera makes it possible for people at home to see it.

As it is now surmised, the Pygmy in prehistoric times was probably evolved from negroid tribes that originally migrated into Africa from Nearer Asia. The type is not, as has been supposed, closely allied to the Bushman of South Africa. The language of the Wambute, as well as other forest dwarfs, would appear to reflect the tongue spoken by the neighbouring tribes amongst whom they live. To me, however their speech resembled calls of animals, especially monkeys, more than a language ; they seemed to use intonations more than words, especially when calling loudly to each other in the forest ; this was due no doubt, in part, to the echoes that form in the tree " galleries," but this quality in their speech always persisted—to my ear at least !

Respecting their range, the Pygmies are to be found spread about over the entire basin of the Congo, with a leaning to the north-west, north-east and east. Their limit to the west reaches right up to the Cameroons, and on the east as far as Mount Elgon and Lake Eyassi, dwarf races being found even on Lake Rudolph. Their skulls being lowest in the scale of human development are characterised by a prog-

nathous or protruding jaw. They are, however, or seem to be, more nimble witted than many other forest natives of a higher culture, and having no cannibal tendencies are gentlemen compared to the bigger negroes.

When making my visit to the Wambute with my " movie " camera, I took the chief Moera with me, sending him on ahead to calm any fears they might have regarding my intentions. On my way thither I passed through a large extent of forest that was then being cleared for bananas, the staple food of the forest negroes, where I had a good opportunity of observing their methods of opening up land for this crop. Firstly, they cleared the thick undergrowth which was burnt, leaving only the largest trees standing to act as shade for the young banana roots that were planted hap-hazard beneath, in small holes dug in the deep leaf-mould. When these had taken root they proceeded slowly to fell the gigantic trees that had been left standing; this was done from a frail platform some twelve feet up the bole or, in the case of a soft-wood tree, a fire would be started at its foot in between the semi-aerial roots.

Passing on in the wake of Moera the fact that we had reached the vicinity of Pygmyland soon became evident for our ears were assailed by a babble of echoing and unaccustomed sounds, due to the consternation caused by my near approach and Moera's expostulations. The expectation of some salt, however, induced the more timid women and children who had run away, to return, so when I arrived most of my " performers " had assembled. There were some twenty-five of them all told, some on trees—mostly the children —the men and women in groups in front of their leaf shelters. The grey bearded chief of the Wambute, whom I had seen

previously, came to salute me ; to him I explained my mission through Moera, but at first I wanted to know why they hadn't killed me an okapi. The reply was that " many white men had come seeking the *kwapi* and that now there were few in the forest "—this I believe was true.

The Pygmy camp as I found it was just a collection of leaf bowers made by arching branches into round shelters about three to four feet high, some of which Moera informed me were for the women and others for the men ; this no doubt bears out the recorded promiscuity practised in their matrimonial affairs. Almost all these little people were light brown in colour as if living in the dense shade of the forest had paled their skins ; they also had the appearance—especially the children—of being ill-nourished and hungry. On making a tour of the camp and looking into all the " huts," I was unable to find a single utensil, neither cooking pot nor gourd. There was one primitive kind of iron axe and a few earthenware pipe-bowls, some with long reed stems, others were stuck into the midrib of a green banana leaf four feet in length, through which they doubtless obtained a very cool smoke—that was all. All the male Pygmies, men and children, had small round bows and numberless arrows, some of the latter having broad iron heads with feathered shafts (some of them poisoned with a paste was of the deadly *Strophanthus* seeds), whilst others were merely finely pointed raphia splinters flighted with shaped pieces of dried leaf. Most of the men had round skin pads attached to their left wrists, made apparently in some cases from the dried and stuffed *scrota* of various animals, to protect the arm from the bow-string and in which to carry their poison. I saw no spears and but few small knives,

and they wore next to nothing in the way of clothing or ornaments.

The light for instantaneous photography in the gloom of the forest is never good, but on this occasion I was fairly successful and the results were pleasing. Having made my exposures I returned to camp, where my wife and I were soon busily engaged on preparations for our advance along the Semliki valley.

Shortly before we left Moera's village, Père Lens of the Sacred Heart Mission at Mbeni spent two days with us, and over the camp fire told us many interesting tales of the old days when the cannibals were openly cannibals and white men travelled with an armed escort. Some of these grim episodes I have recounted in the next chapter, some must be left untold.

On passing in review the novel experiences we went through, and the first glimpses we obtained of the highly interesting life of this great forest, we felt we were only just commencing the really interesting part of our expedition and longed to see more. It was, therefore, with the Call of the Wild, the Fever of the Horizon—call it what you will—as strong as ever within us, that we " slung our pack " and hitched our belts and passed on down the forest way.

CHAPTER XII

AMONGST THE WAMBUBA CANNIBALS

"Capped in scarlet parrots' feathers, draped in vesture wild and weird,
Beaded, bangled, and barbaric, reverenced and rudely feared,
Lords of life and limb unquestioned, Kings of Crop and Kings of Clan,
Swayed they thus their forest silence on the old primæval plan
Till the white men came among them, and the new regime began."

Verse II, "The Crocodile Kings," by Cullen Gouldsbury.

THE descent from Moera's to the native village of Katushi, which is built on the floor of the Semliki valley, is very steep in places, the track passing through dense virgin forest and becoming a kind of tunnel here and there, the haunt of large and brilliant forest butterflies, which from every bunch of fallen fruit, fly up in sparkling clouds as the traveller approaches. Flowers are by no means common in the primeval forest, and the butterflies and moths, most of the forest forms at any rate, feed on fruit, plant juices and gums, some again—the rarest and most beautiful—on dead and decaying animals and other offensive matter. Here I added considerably to my already rich collection.

Besides these beautiful insects, I had collected some valuable monkey skins in this neighbourhood, amongst them were: The Red Colubus Monkey (*Colobus ellioti*); Dent's Guenon (*Cercopithecus denti*); Stuhlmann's Guenon (*Cercopithecus leucampyx stuhlmanni*); Huri Mangabey (*Cercocebus albigena ituri*); also I obtained a Flying Squirrel (*Anomalurus pusillus*, and another fine reddish squirrel with a large bushy grey tail. From the north end of Lake Kivu I had already

obtained several skins of that rare and beautiful Golden Monkey the *Cercopithecus kandti.**

As we made our way down into the valley I added yet another specimen to my collection; this time it was a large genet, the *Genetta victoriæ* (another discovery of Sir H. H. Johnston) which was brought after me by a breathless runner from one of the villages near by, having been caught that morning in a trap; another native who followed me had an okapi skin belt he wished to dispose of. The Semliki natives appear to be great trappers for they were always bringing me trapped animals, especially the black and white Colobus monkey which seems to be more easily snared than others. The trap used in most cases is a small hutch-like enclosure with a falling trap door, which the animal sets off itself when grasping the bait within.

The trapping propensity of these natives was answerable for a very nasty experience that occurred to me a short while before when out collecting. On this occasion I was quite alone and seeing a valuable butterfly which I chased along a narrow track I fell with a crash into a hidden game pit. Fortunately for me the pit was not staked at the bottom as some of them are, or I should have been impaled. The sensation when seeing the ground breaking up about one, as one goes down clutching at the thin grass covering, is to be classed with nightmares. This pit-fall with the inside of which I made such a painful acquaintance was eight feet deep, six

* Belgians have reported to me the existence of a pure white monkey in such widely separated districts as Lake Kivu and Lake Leopold II; this is possibly the White Mangabey (*Cercocebus jamrachi*) which was first discovered near Lake Mweru. A photograph shown me of two dead white monkeys and one live young one, from Lake Leopold II, rather confirms this as they looked like mangabeys; their heads were black and the rest of the body white, with very long tails.

feet six long, and about four feet wide at the top, tapering down to about a foot at the bottom. It was placed on one side of a fallen tree so that any animal stepping over the tree could not fail to fall headlong—this one was made to catch an okapi. I scrambled out of it with some difficulty, having luckily only sustained a severe shaking.

On arrival at Katushi we again had a practical example of drum-signalling by these natives, for we were expected and not only had the chief got food, wood and water ready for us and our porters when we arrived, but had sent out natives in several directions to locate a good elephant for me. Now, up to this time I had been doing no elephant hunting and had scarcely even made inquiries about them, as my licence had not arrived from Stanleyville. This had in fact turned up the day before we left Moera's, when I asked that chief if I was likely to see any of these animals on my way to Katushi. However, as stated when we arrived the natives appeared to know our movements and even of my wish to hunt elephants. In explanation of this the chief told me he had received news about our coming the previous day by drum-signal.

Right throughout the central Ituri district this drum-signalling is in practice, and drums are to be heard beating at all hours of the day and even at night in a thickly populated district. Amongst the Wanandi especially and in a lesser degree with the Wambuba, this drum-signalling has been brought to a decidedly useful art. The Catholic Fathers at Mbeni used it almost daily when having something to communicate to their teachers in certain villages or to their cattle herdsman in charge of the Mission cows, which had to be kept at some distance from Mbeni on account of tsetse

fly. Illustrating the accuracy of the drum code the following instance is worth recording.

On this occasion news was received at the mission by drum that a white man was approaching from a certain direction, but as one of their members had lately left to travel the same route and news had already been received respecting his arrival at a certain village, the Fathers placed little credence in the report, judging the natives had become mixed up with the message and that it referred to their friend who had recently left. However, the native signaller persisted in his report that there were two white men, one going and one coming on the same road. To prove the reliability of the native code sure enough the reported white man turned up at the mission the following day. This one instance is sufficient to show how useful this method of signalling might be in case of sickness, for instance, or a native rising.*

On such an expedition as I have attempted to describe in this book, the study of the flora, fauna and topography in which I was most interested, are no less absorbing than the extraordinary variety of the beliefs, customs and superstitions of the many savage races through whose country I travelled and to which, through lack of time, I was only able to give but a passing interest. With the forest region—for the practice of its worst forms is confined to forest dwellers—we were in touch for the first time with cannibalism, without a reference to which a book of travel on the Congo could hardly be considered complete, it having played such a large part in its history.

As we had passed by the Bahuni country and were amongst

* This system of drum-signalling extends over the whole of the Congo basin, as well as to northern Angola and the Cameroons, and reappears in Southern Nigeria and much of forested West Africa.—H. H. J.

the Wambuba natives who inhabit the one strip of the Belgian Congo not yet completely under administration, we were in a district where cannibal practices are as much rampant as anywhere in Africa to-day. We were, moreover, about to penetrate the unknown region lying north-west of the abandoned post of Lesi where "long pig" was still on the weekly *menu* of these degraded savages. I will therefore at the suggestion of many friends write down such observations on the custom and its history as I think may interest them, leaving, however, my account of the Leopard sect of the Anyioto for the next chapter, and until my description of our route leads us through the country in which they operated.

Cannibalism* no doubt entered into human nature through the pangs of hunger at the earliest dawn of history for amongst the remains of the early cave-dwellers, human bones, especially those of children, bearing cut marks, have been found in different parts of the world, Great Britain included. Afterwards, doubtless, the pangs of hunger being satisfied a liking for human flesh persisted.

After the lapse of many thousands of years we next find that religion has entered into it as a deity demanding human sacrifices, the worshippers eating (and possibly liking) as a sacrament the flesh of the sacrificed. Added to this we find amongst certain of the Congo negroes the barbarous idea of eating the flesh of the Great Departed with the hope of retaining in their systems something of their greatness and virtue. This custom has no doubt come down in prehistoric times from ancient Egypt, where the practice had its birth.

Then again comes a belief in a life after death and the

* The word "cannibal" is derived from a corruption of the Spanish name "Caribales" or West Indian islanders and invaders, called in English the Caribs.

necessity that certain individuals—beloved or useful—should accompany certain persons of importance to that other world when they died, which brings us down to the execrable burial murders of the Congo and their accompanying cannibal orgies. To this can be added yet another factor, in the craving of the semi-human Congo savage (without such a thing as pity in his composition or language) for a change from his insipid vegetable diet and for excitement to break the monotony of his *forest-bound* life, in other words the longing for a " thrill " which besets even ourselves to this day, good and bad alike, and which is in fact at the root of the general interest taken in cannibals and the wish of my friends to hear about them.

A great deal of interesting information concerning the customs and history of the Congo cannibals is contained in that comprehensive work of Sir H. H. Johnston, entitled " George Grenfell and the Congo," which should be read by all those interested in the development of this amazing country. Here will be found some of the most gruesome accounts of burial murders, ceremonial cannibalism and other diabolical customs, that can well be imagined, written of a time when the natives resembled the worst Carnivora and fought each other for the flesh on their bones. One of these accounts deals with the extraordinary customs and murders attending the death of a Baluba chief, which is so bizarre as to be almost past belief. In these times, now happily passing away, burial murders and cannibal feasts were the order of the day, and no chief of any consequence died without some of his wives, as well as numerous slaves, being slaughtered or strangled and buried with him (in some cases they were buried alive), the ceremonies being concluded by a feast

of human flesh provided by other victims killed for the purpose.

In these days cannibalism amongst the Wambuba is confined to the exhumation of dead bodies and eating them, for some of these human hyænas think nothing of robbing a week-old grave of its contents, such cases frequently coming to the notice of the missionaries in the district. The more enlightened natives have to bury their dead secretly to avoid this ghoulish practice.

Cannibalism dies hard in the Congo as instanced by the recrudescence of the practice during the German East African campaign, when many authenticated cases occurred of the Congo native soldiers eating the dead on the battlefield at night after an engagement.

A case of cannibalism that was brought to my notice was of a man who practically held up a district by waylaying solitary passers-by in a lonely part of the forest, killing them, robbing them, and eating them; he was eventually found out in rather an extraordinary manner, for he started selling human meat which he disposed of ostensibly as flesh of antelopes. The local villagers knew possibly what the meat was, but as the headman was a confederate they did not give the game away. Eventually, however, one of his would-be victims escaped although badly wounded and identified the man from whom he had bought some meat the day previously. The man and his confederate escaped justice by fleeing the neighbourhood and, it is thought, joined the Anyioto Leopard sect, but in the subsequent hue and cry their retreat in the recesses of the forest was found, containing a quantity of human skulls and bones which they had partially destroyed by burning.

Wambuba Cannibals

As may be seen from my photographs of them, the Wambuba cannibals look their part, the women adding to their repulsiveness by piercing both top and bottom lips, and inserting small brass rings. The chief's wives wear a heavy iron carved collar weighing about five pounds, a relic of the old slave days, which has now become a kind of token of affectionate submissiveness on the part of the wife. In the same photograph can be seen the type of house in vogue with the Wanandi, Wambuba and some of the Bakonjo natives, this form of hut being found in the forest region of the Semliki valley and the adjoining portion of the Congo—Semliki watershed.

The maranaceous leaves with which these huts are thatched being very tough and durable in texture, form an ideal, completely watertight roofing, far superior to grass, lighter, less verminous and less likely to catch fire, and are, moreover, used for thatching purposes all over the Ituri forest. The specially shaped huts I have referred to, however, are not found outside the districts inhabited by the tribes mentioned.*

Among the curious customs of the Wanandi and Wambuba natives is that of loading their babies with wire neck rings and charms until the poor infants can scarcely breathe, and the friction of the ornaments wears the skin raw ; as they are handed down from generation to generation as kind of heirlooms, matters are made worse by the collection of filth and vermin they contain.

Salt and meat are the two great luxuries that these people will move heaven and earth to obtain. Over and over again

* The same shaped hut is found amongst the Bakonjo inhabiting the high western slopes of the Ruwenzori Mountains outside the forest region. Here they are thatched with banana stems, not with leaves.

a native has come up to my camp with a long tale about something or another—how he had helped carry a sick porter, or how he had gone to look for elephants, or how he had done this, that and the other for me—but the end of the yarn was just the same and I always knew what was coming—a plea for some salt. Eventually I got heartily tired of giving it out and, moreover, our stock began to run low.

In these days, since the white man put a check on cannibalism, meat is difficult for the natives to obtain; the favourite monkey stew comes their way now and again certainly, when a trapper is successful, but not much to fill many mouths; once a year perhaps a windfall in the way of an elephant, but little enough does each man get of it, when there are at least two hundred people fighting for scraps. So, like the salt, the meat question assumes great importance on the advent of a white man, and he is usually worried to come out and shoot monkeys, or elephants with tusks (so they say) the biggest ever seen.

Unlike the majority of the Ituri forest tribes, the Wanandi and Wambuba use very little powdered camwood or *ngula* either as a dye or to paint themselves with. This is rather to be wondered at as it is so extensively used throughout the rest of the forest region. Regarding this rosy-coloured camwood, it struck me that there should be a lucrative trade with it amongst certain tribes, the Masai for instance; for natives who use red dye, and in whose country nothing producing it grows, will pay any price for it in blocks or otherwise.

For the next ten days we wandered on through the forest accompanied by our cheery Wanandi porters, to whom we took a great liking in spite of their nasty customs. Once

we caught a view of the resplendent snow-caps of the Ruwenzori mountains as we mounted some outstanding spur of the Great Rift and then again came down to the curving palm-clad banks of the rushing Semliki. The early morning in the mist-hung forest perhaps gave the most wonderful effects of all. At this hour one seems to walk in an enchanted land, for then the sunbeams push slantwise through the pearly mist at all angles, forming long ladders of light through the dim trees, and seeming to surround and smother the passing traveller as if in a giant cobweb, as he peers his way along.

After climbing the escarpment and traversing much difficult and broken country, we found ourselves for the last time on the Congo-Nile divide, at the southernmost limit of a plateau country, a day's march south of the old Belgian post of Boga. Here, extensive areas of long elephant grass were interspersed with patches of the now receding forest, the nights too were cold and the air exhilarating after the oppressiveness of the valley.

On this southern arm of the Bahuku plateau stands Serimani's village which we had now reached, and west of this lies a wild, broken and unknown forest-clad country, styled for the want of a better name "Marsula's country," (Marsula being a powerful chief residing there). This is the stronghold of the untamed element of the Wambuba cannibals.

Having made a friend of the chief Serimani by shooting an elephant that was laying waste his young maize crop and presenting him with its tusks, he volunteered to guide me into it and show me a place where the elephants had big ivory and a white man had never been.

With my licence in my pocket, such a chance was the very one I awaited, and my faithful Wanandi porters being ready to follow me anywhere, no time was lost in getting under way. We struck out due west from Serimani's, literally pushing our way through the veritable tangle of bamboo-like grass, wild bananas and thick forest that hide the steep sides of the many affluents of the Itoa River which have their source on this side of the watershed.

On the third day, the forest becoming continuous and even more dense than before, it was hard to give credence to our guide's assurance that we would presently emerge into open country again, but as he stuck to his contention I had perforce to believe him. At midday we reached what must have been the western edge of the plateau for it was marked by a steep escarpment over which we gained an extensive view of the central Ituri valley stretching away, it seemed, almost into the brooding mists of the great Congo River itself. On this eminence at an elevation of 4,700 feet I made camp, as Serimani stated that we were now only a short walk away from the open elephant country, about which I had heard so much and which by this time I was most anxious to see.

Being known as *Ingelesi* and not as "*Bulamatari** in search of taxes," in the afternoon we were visited by bodies of the most barbaric Wambuba cut-throats that can well be imagined. Hung with weird ornaments, some of them capped with skin head-dresses and others wearing okapi skin belts, and carrying bows and arrows, knives, spears,

* *Bulamatari* or *Bula-matadi* means literally the stone-breaker, the name given to Stanley by the natives and which has now become the designation applied to the Belgians by all Congo natives. The name has its origin in the early road-making efforts of Stanley in the region of the cataracts.

¶ Wambuba Cannibals (not Pygmies) cooking monkey meat in the Semliki Forest.

¶ Pygmies shooting with bow and arrow. The pads or pouches described by the Author can be seen on their left wrists. They are standing behind one of the semi-aerial roots of a giant forest tree

¶ The Wambuba Cannibals described in this Chapter. Amongst the most degraded and repulsive negroes to be found in Africa to-day, they still retain their terrible customs and remain untouched by civilization as they were before the advent of the White Man.

axes and knobbed sticks of all shapes and sizes, and others again with elephant-tusk trumpets slung round their necks, they were a fearsome crowd that passed that day in review before us. Where meat was concerned they were tigers, and later on fought tooth and nail for every scrap of the two elephants I shot, including their thick hide and bones. At this bloody battle a terrible sight for any ordinary individual to witness, I gained, as never before, an insight into the meat-lust of the cannibal—the human hyæna—knowledge which seemed to lend a chill to the hot sunshine as if for a moment a cold wind had passed by. I pictured them in my mind's eye cutting up their dead victim, squabbling over the tit-bits and afterwards doing other fearful things with those chipped crocodile teeth of theirs.

At intervals in the course of the night trumpet signals could be heard calling to other "hyænas" below the escarpment (I heard no drum-signalling in this country), no doubt spreading the disturbing news of our visit and its object.

I left the camp early next morning and under the guidance of two local criminals, we followed the over-night spoor of some elephants, which took us in the course of half an hour out of the forest on to an undulating long-grass country of large extent, bounded on one side by the dense forest, on the other by the lip of the steep escarpment I have previously mentioned. In many ways it was an astonishing kind of place—an island of grass in a sea of forest. There were but few trees upon it, and the line of demarcation between grass and forest was sharply defined, as if neither would concede one inch of the ground they each occupied.

Having got well out into the open I climbed a solitary tree, from which vantage point I could look out over the

tall grasses at the country beyond. To the eye of the hunter the sight that met my gaze was vastly interesting, for dotted about the landscape in every direction were lines and bunches of elephants, most of them at this early hour moving slowly along feeding as they went. As I looked at the verdant green of the greater part of this tract of country, the reason for the presence of this great concourse of elephants became apparent in the fact that large stretches of the old, dry grass had been completely burnt off within the last two months, a new and succulent crop having sprung up in its place. This new grass stood about three feet high and its juicy growth had attracted most if not all the elephants in the neighbourhood.

Apart from the value of their ivory and the exciting sport of hunting them, elephants always interest me and I have often stood by the hour watching these old-world animals at their ponderous antics, to my great entertainment. One time it might be they were taking a mud-bath in which they rolled, becoming for the time being a species of mud-caked saurian; on another occasion they were perhaps in a dry and waterless country, and would cool themselves by putting the trunk down the throat and drawing off the water from their stomachs, douching their backs with it; then again I have seen them taking an afternoon nap lying flat down on the ground like pigs (this contrary to the tale one hears of elephants never lying down to sleep), when a man may go up and touch them and come to no harm if the wind be right. I have, too, seen them butting one another in play, fighting in earnest, and love-making in earnest too. Whatever they are doing they are always worth watching and I can imagine nothing more interesting than a full day spent

at a place like Api in the Uele district of the Belgian Congo, where the Government have an elephant farm and thirty-six tame African elephants trained to do various work, such as ploughing, hauling and lifting.

The elephants that I found in this remote corner of the Wambuba country were the tamest I have ever known; as Serimani has told me, "they had forgotten the sound of a gun if they had ever heard one," and the taint of man on the air disturbed them not at all. They owned the country here right enough, as the natives knew to their cost in rifled and broken banana groves and smashed huts; they would get out of the way for nobody and even after I had killed two of their number and wounded a third, the others moved on a few hundred yards only and began feeding again. However there was one thing that did disturb them, for unlike all the antelope species whose degree of intelligence will not enable them to connect the smell of blood with danger to themselves, the elephant realises it perfectly well, so the following day's orgie saw the last of the retreating herds topping the rise in the far distance.

As there were many cows and calves and but few good bulls amongst the herds, I had an exciting day's chase after the two elephants I eventually bagged. To go into the details of the hunt is unnecessary and would doubtless bore the indulgent reader, as such descriptions have lost their novelty in these days, and moreover, for those who are interested, I have added a chapter on elephants and their ways at the end of this volume.

As I wended my way home to camp after the day's sport, I passed many more elephants quite undisturbed by the sound of my rifle and still unconscious of any danger.

The carnival on the following day was literally a *putting away of flesh* as the dictionary has it. The human vultures and hyænas, amongst which were many pygmies, gathered to the feast from miles around and had only been waiting for the word "go." Even before my men could reach the carcases in the morning, the local savages had started cutting away at them and had in fact been doing so most of the night. It was only with difficulty and after a stand-up fight that my carriers got any meat for themselves. When I arrived on the scene what remained of the dead elephants was hidden beneath a mass of shouting and swaying humanity, surrounded by a ring of naked hags who stood to catch pieces of meat thrown to them as it was cut off by their men-folk on the carcase. I had grave doubts about ever seeing my tusks again, and kind of wondered if these cannibals were in the habit of eating ivory as well as skin and bone.

Eventually, however, all was over, bar the everlasting shouting of the African negro at his worst, when I was thankful to get away with my ivory* and take the track to Irumu followed by our, by now, bloated porters.

On our way to this important Government centre we passed the valley of the Loya which is also completely overrun with elephants, but as we neared Irumu we found ourselves in an upland pastoral country with the homely sound of lowing cattle falling pleasantly on the ear after the savagery of the Semliki.

* These tusks were of the semi-forest type, having a section of black "staining" running through the ivory, to which I have referred in Chapter XV, and were long, without much of a curve to them.

CHAPTER XIII

WESTWARD TO STANLEYVILLE—OUR LAST "SAFARI" —THE ITURI FOREST—GOLD, IVORY, MAMMALS AND MEN.

"And so, at last the hut-tops peer out amid the trees,
And heathen words of greeting come floating on the breeze;
Behind the belt of brushwood dark shadows come and go,
Where swaddled shapes, like dancing apes,
Come forth to mouth and mow—
The twilight broods in the heavens,
And all the West's aglow."

"On Patrol," Verse V. By Cullen Gouldsbury.

AFTER the cool of the forest the last stages of our journey into Irumu seemed doubly hot and trying, both my wife and myself therefore looked forward with considerable satisfaction to a rest and a few luxuries on our arrival there. Alas, however, for our hopes in the latter direction, for we found the stores contained neither wine, spirits, nor tinned food. Butter, milk and a few vegetables we did obtain, however, and so with these we had to rest content.

All that time, ivory was the one thing with which Irumu seemed to be concerning itself; it had reached an absurdly high figure owing to a fictitious rise on the home market and the price then ruling was something in the neighbourhood of one hundred and thirty francs per kilo. In consequence the ivory trade was brisk, to say the least of it, and the search for the stuff fast and furious. I was pounced upon by both white and Indian traders immediately I entered the township, who would hardly believe me when I informed them that I was not selling my ivory.

As the Irumu district had been a game reserve for ten years past and had recently been thrown open again for elephant shooting, some very big tusks were being obtained by Dutch and native elephant hunters, and specimens weighing over one hundred pounds were frequently being brought in for sale. Intriguing for ivory was going on from Irumu to Mbeni and back again. Old tusks that had been buried for years were being dug up. The word had gone forth into the forest that ivory was worth a fabulous price and all the forest tribes were placing their great harpoon elephant spears in all the most likely places they could think of, in the hope of winning a fortune. Later on, as we made our way down the Ituri Valley, we continually met ivory—ivory being carried in big lots and in little lots—great single "forest" tusks, black and shining, worth one hundred and twenty pounds or more, perhaps owned by a pygmy, who passed staggering under the weight of his possession, or long thin cow tusks tied into loads of three or four pieces—all were going to feed the ivory market. Yes, the elephant folk were having a harassing time of it, through the whim, possibly, of a few Americans who had an idea of cornering ivory away on the other side of the world. The boom broke several traders in the Congo and crippled many more, for the price dropped as suddenly as it rose.

Irumu, which stands at the junction of the Ituri with the Shari River, is an uninteresting and rambling kind of a place, made worse, at the time of our visit, by the smoke of bush fires which constantly enveloped it. The place has a neglected appearance, due to some extent to the indecision of the Government over the question of its abandon-

¶ Balega Women from near Irumu. They cover themselves with small bunches of green leaves in front and a handful of banana fibres behind, which, however, only succeeds in enhancing their nakedness. In spite of their 25 years' contact with whites, these natives are untouched, as yet, by civilization.

¶ On the left of the photograph an Elephant's Tusk of *white* ivory from the grass country is shown in comparison with *black* ivory from the Ituri Forest.

¶ A Mobira Woman with a cut and extended upper lip, in which is placed a disc of wood. This practice is dying out. The cause for thus disfiguring themselves goes back to the old Arab slave days when an ugly woman had a better chance of escaping slavery than a comely one.

ment for a new site at Bunia on the Kilo-Lake Albert road, one and a half days' march to the north-west, where there is a wireless installation. The south-west corner of Lake Albert lies three days' journey to the east of the present township and the Kilo gold mines are the same distance to the north.

Dutchmen—and lately some Englishmen—have been quick to realise the opportunity afforded for farming and agriculture by the suitability of the neighbourhood, its healthy climate, heavy rainfall, rich soil and the increasing market of the Kilo mines. The terms of land tenure are the most equitable I know of in Africa to-day, and there is a decided advantage in the accessibility of the district through the Uganda Railway.

The wealth of the Belgian Congo is perhaps nowhere better exemplified than in this north-eastern portion of the territory, for here lie some of the richest alluvial gold areas in the world, how rich no one can at present estimate, and they stand in a well-watered, upland country, in every way suitable for white settlement, where native labour is abundant and cheap and on the edge of a limitless forest, containing—as well as giant timbers—oil and rubber and a never-ending supply of beautiful ivory.

The Kilo-Moto gold mines were discovered by a prospector named Hannam some fifteen years ago. From the outset there has been considerable mismanagement over these wonderfully rich mines, and in spite of good advice, the Belgians have followed, until recently, a careless policy regarding them. Rightly handled there should be by this time a large and thriving township in the vicinity second to none in the whole colony, but opportunities have been

refused or frittered away and the methods employed to obtain the gold remained for many years in the same primitive stage as when the industry first commenced. The gold, which is found in alluvial form over a large area, has been scraped and dug for with but little attention to system or method, with the result that only some fifty-six per cent. of the actual gold present in the soil has been collected, the remaining forty-four per cent. being thrown aside with the deposit containing it into big dumps, after a single washing over sluice-boxes, resulting in a considerable portion of it being carried away and lost, by exposure to the heavy rains. Before and during the Great War, the Belgians, as if afraid of foreigners within their gates or unable to be masters in their own country, in a weak moment decided that no one should be allowed in or around these mines without a special permit from the Governor of the colony, and the permission I am told was difficult to obtain. What there was to be afraid of in anyone viewing the mines without this fuss it is difficult to see, for alluvial gold is hardly picked up by the handful even in the Congo.

In spite of mismanagement, however, and the wasteful methods of working the alluvial wash, twenty-three tons of gold valued at £3,600,000 were obtained from the State mines of Kilo and Moto up to the end of the year 1919; one nugget being found weighing a little less than four and a half kilos.

In the last eighteen months there has been another period of increased activity, and the running of the mines placed in the hands of an organised company with shareholders—styled the *Régie des Mines de Kilo-Moto*—under the management of one of Belgium's most able colonial administrators,

Vice-Gouverneur Moulaert, who is carrying out much-needed reforms and supervising the erection of up-to-date machinery for the working of the reef. Metalled roads connecting the mines with Lake Albert on the east and with Redjaf and the Nile to the north, at which the Belgians have been working for several years now, have been pushed forward and are in a fair way to reaching their goal.

The mines yield at present about three thousand kilograms yearly, but this output will be greatly added to when the new machinery comes into operation. The reef yields about fourteen grammes to the ton, the alluvial deposit three grammes.

All the creeks and gullies in the Kilo mountains yield gold, and as prospecting is active, new deposits are continually being found. There is another promising mine on the lower Ituri River at a place called Senguli which we shall no doubt hear more of later; it is being worked by the Forminière Company who are also importing machinery to increase its production. Then farther again to the south, there is a rich reef running, it is supposed, along the marginal mountains west of the Semliki and Lake Edward, but as yet undiscovered and only known to exist through the alluvial wash brought down by the Ibima and Lindi Rivers and their affluents.

It is worthy of note that most of the great divides of Africa hold mineral riches, and it has always been a source of astonishment to me that so little attention was ever paid to prospecting on the Anglo-Belgian frontier at the southern extremity of what was known as the Lado enclave. This is the more to be wondered at when the significant fact of the proximity of the Moto mine to this divide is so evident.

It was therefore with little surprise that I read the announcement of Mr. Robert Williams, that his group had at last formed a syndicate (the Nile-Congo Divide Syndicate) to prospect this promising area. There is every reason to suppose that the venture will be highly successful.

I had it in mind to visit that interesting district known as the Uele which borders on the Bahr-el-Ghazal, but deciding that for entomological purposes the great forest of the Ituri would yield me a richer harvest than the Uele valley, I decided to terminate the expedition by adopting a homeward route across the four hundred and sixty-five miles of forest that separates Irumu from Stanleyville on the Congo River. Both my wife and myself were beginning to feel wayworn after our long journey and the hard life we led, so we decided that if we accomplished this last excursion, we would be due a holiday and would have made a thorough biological survey of the eastern Congo.

Having come to this decision we lost no time in making preparations for the last lap, as we termed it. Owing partly however to an outbreak of smallpox and the consequent restrictions on the movements of natives, as well as other causes, we were condemned to a tiresome wait at Irumu of nearly three weeks. It was therefore well on into March before porters could be obtained for us and we set our faces to the west.

Our porters on this occasion were a band of half-breed pygmies from the lower Ituri, few of them over four feet six inches in height, who carried our loads on their backs with fibre slings passed around the forehead; so if the load happened to be a fairly large and long one, the carrier became completely hidden behind it. This method of portage, as

Wabali Natives at Batama, who have brought in smoked Pygmy Antelopes and Rubber for sale. The *mambela* cicatrisations are to be seen on the native to the right of the picture.

¶ The Ituri River at Penghe.

might be expected, caused us much tribulation and gnashing of teeth, for our goods and chattels not being adjusted to meet this topsy-turvy method of carriage, suffered accordingly.

Some of these little devils took it into their heads to run away the day after we left Irumu, thus causing a further delay until others could be obtained. Whilst this was being done we put up in a rest-house on the Ituri River. The river at this crossing is about one hundred yards broad and forms the division between the long grass country of the plateau and the dense forest of the lower Itrui basin.

When the runaways were replaced therefore, we once more plunged into the great forest, which was to continue without break for the remainder of our journey.

As the season of the big rains was commencing, heavy afternoon storms were our lot as we made our way through the damp forest, the discomforts of travelling at this season being mitigated, however, by numerous rest-houses *en route*, built by the order of the Government for the use of their officials.

Comparatively speaking—with the exception of the *Glossina palpalis*, the carrier of sleeping-sickness, in the neighbourhood of the rivers—insect pests are not too obtrusive in the central Ituri forest. Owing to its good drainage and lack of marshes, mosquitoes are infrequent; that dangerous, grey, night-feeding tick (known colloquially in the Congo as the *kimputu*), which has become such a scourge elsewhere in Africa as the carrier of the dreaded relapsing or spirillum fever, is non-existent; the white ants are small and not often met with, and there are few if any jigger fleas (the bane of the porter) away from the white

settlements ; excepting sand-flies comparatively few noxious flies are encountered and roofs of houses are no longer the prey of the borer beetle. Regarding diseases in this forest region, smallpox and dysentery are rare, yaws and elephantiasis prevalent but not common. Leucoderma is one of the commonest diseases that has come before my notice, and may be easily mistaken for leprosy by reason of the whitening of the affected parts. It appears to be a harmless disease in its less severe forms, as it does not incapacitate the sufferer in any way, and many of our porters, who were carrying heavy loads, had it. All the natives in the numberless villages we passed seemed an exceedingly healthy and strong race of men, and we ourselves never experienced a day's illness during our four months' sojourn within the forest. The nights are often very oppressive but walking beneath the forest shade on a fine day, without the glare of a tropical sun to sap the strength, is a pleasure, and there is always the ever-turning kaleidoscope of nature to watch as one passes along.

From the foregoing it may be gathered that travelling through the Ituri forest is not as bad as it is often painted. The trip from Irumu to Stanleyville is an education in itself and may well be made by anybody in these days—taking ordinary precautions—without any ill-effects to the health.

From the first crossing of the Ituri River near Irumu, the track carries one due west along the north side of the valley to the Haulo or Epulu River which is reached after six days' marching, and three days beyond the old Arab town of "Mombasa." This river, with its coffee-coloured water, is exceedingly picturesque, especially where we crossed it one day above its junction with the Ituri. Here it is

deep and broad, and the dark forest trees overhang it as if they fain would clasp their giant limbs across.

The Haulo* River comes down from the Uele-Ituri watershed through an unexplored valley and to the east of the little known Wamba forest, a stronghold of the elephant, the red buffalo, the bongo, the okapi, the giant forest hog, and the dwarf mountain elephant (the yiya of the Mombutu). Here one hears tales of curious animals perhaps unknown to science—a few of them, however, recognisable from the native descriptions, such as the water chevrotain† and the tree hyrax.

Through the English papers we had of course heard of the brontosaurus and the proposed expeditions that had set forth, or were about to set forth, to find it. Of course amongst them there was the inevitable American expedition which, it was said, had offered a million or two for a specimen, dead or alive. Then there was, I think, an English army captain, lately demobilised, who, it was reported, was taking a Männlicher rifle and a shot-gun—or was it a Lewis gun?—as well as his pet fox-terrier, to aid him in his search amongst the swamps of Lake Leopold II. As we now know, nothing came of it and nothing more was heard of the expeditions; possibly they did not carry their search far enough or did not reach the right place. Regarding the origin of the report of such an animal having been seen, the yarn goes that a prospector with a penchant for practical joking met an American missionary on "safari," to whom he spun a yarn about a fabulous monster he had seen the night before. The

* This river is named the Epulu on modern maps of the Belgian Congo, but it is known locally as the Hawlo or Haulo.

† The native name of the chevrotain is *ngungu* and the tree-hyrax (*Procavia marmota*) is named *nguyu*.

missionary being a "tenderfoot" believed him and wrote to his friends in America, where Reuter's reporters got hold of the story. Be that as it may, the natives in many parts of Central Africa believe in the existence of a gigantic water animal* which has been described to me by the Buanga natives inhabiting the swamps of the south of Lake Bangweulu, as a water rhinoceros; they had even a name for it, which was *chimpelwi*, and described it as able to kill a hippopotamus with which it was in the habit of fighting; the bones of one of these animals, they averred, were to be found in the swamps.

An authenticated case of a white man having seen such an animal was told me by the man himself, an acquaintance of mine named Defries. It is, of course, necessary to state he is an extremely abstemious man, besides being a good sportsman, a trained naturalist, and for a considerable period rubber conservator for North-western Rhodesia. When carrying out his duties in the latter capacity he had reason to pass by a small lake between Lakes Chaa and Kapopo on the upper Kafue River. This lake or rather lakelet is so deep as to be unfathomable, and has moreover no visible outlet.

Defries put up his tent near by and towards evening whilst strolling to the water's edge with his rifle, he was astonished to see a massive form lying or floating on the water. Now, Defries was a very old resident in Central Africa and knew a hippo as you, dear reader or I, know a bull in a field, perhaps better, and he emphatically states it was *not* a hippo. He describes it as a long, dark floating body, at which he fired and which he hit, being not more

* This is also the case on the Victoria Nyanza.—H. H. J.

than sixty yards from it, whereupon the animal disappeared amidst a considerable commotion in the water. He never saw the beast again although he waited the whole of the next day on the off-chance, and moreover he examined the complete circle of the lake for spoor, but could find no large tracks of any description either leading to or from the water. He reported the matter to Sir Robert Codrington, who was then the Administrator of Northern Rhodesia, and wrote a report to some museum authorities and there the matter dropped.

This is the only authentic case, as far as I know, of a trained observer having seen, and reported intelligently, such a discovery. Knowing the man personally and having heard the account from his own lips, I am inclined to believe in the existence, or the recent existence, of a gigantic saurian.

Native tradition, legend or belief, call it what you will, bears out this theory. You find it always in lacustrine districts and the report has come to me from many places—from the Albert Nile, from the Highlands of the Great Craters west of Kilimanjaro, from Lake Leopold II, and from Lake Bangweulu. My own actual experiences concerning such an animal confine themselves to the accounts given me by the Buanga natives of Bangweulu, and a large-sized native drawing of a beast resembling in all essentials a brontosaurus, which I found on a hut in the Ituri forest. I will conclude this diversion by remarking that we know such animals did, at one time, exist in Africa, for the largest fossil specimen ever discovered—which is known as the gigantosaurus and over one hundred feet long—came from German East. It is, however, improbable that one of these great saurians still exists, although possible that some large water

animal may yet be undiscovered, as we have seen from Mr. Defries' experience.

To continue our narrative: two more days brought us to the new *poste* of Penghe on the Ituri River, and as the Belgian official was absent we were greatly pleased when, two days after our arrival, an Englishman rolled up, by name William Cross, one of the most able prospectors of the Kilo Mines. Neither of us realising each other's nationality, we greeted one another with "*Bon jour, je suis un anglais,*" at which we laughed heartily. He was a Lancashire man and a great *raconteur*, with an astonishing fund of anecdote, and having travelled widely he kept us interested for hours at a time. If I remember rightly it was also his birthday, and Penghe happened to be the point at which, by his having reached it, he had completed a circle round Africa, so we asked Monsieur Ericksson, the agent of the Anglo-Belgian Intertropical Trading Company then at Penghe up to dinner and made a night of it over our solitary bottle of whisky.

Avakubi, a *poste* founded by Stanley, is the next Government station down-river from Penghe, and is reached from the latter place in three days by canoe or five days overland. Having had such a lot of foot-slogging we of course took the canoes, into which we piled our (by now very dilapidated) kit. We occupied a leaf shelter in the centre of one canoe, our boys enthroning themselves on our baggage behind, and thus, after saying good-bye to our friend Cross, we pushed into mid-stream and were soon being borne swiftly along on the strong current helped by our lithe Wabali paddlers.

With my camera lashed to the canoe I exposed many feet of cinematograph film on the rich river scenery as it

passed, and again at different stopping places *en route* I obtained some beautiful pictures of feeding butterflies, which attracted especial admiration when I had them screened in London and Brussels. On the second day after leaving Penghe, some rapids having to be negotiated, we had to unload the canoes and send our gear round by land. We, however, staying where we were, were dexterously piloted through the leaping water by our expert oarsmen who accompanied the feat with their musical boating song. Other rapids are met with just before reaching Avakubi but these being easily negotiated we soon found ourselves across them and tying up in front of the *boma*.

Oil palms are not to be seen in any quantity until one approaches Avakubi, but from here right down to the Congo River they fill the landscape, for the Belgians have fostered the oil industry by the good idea of insisting on the natives planting annually a certain number of palms, and moreover, planting them along all the made roads as well. As the palm tree grows, the leaves are cut away or fall off, thus forming an ideal lodging place for parasitic ferns and mosses, each stem becoming after a time a miniature fernery, and thus enhancing the already wonderful forest scenery.

Avakubi is buried in palms and mangoes, planted there in Stanley's time. It is quite a pleasant place, with some very good brick houses, and close by a mission station of the Sacred Heart. At the time of our visit the *Administrateur*, amongst the multifarious other jobs of a Belgian official already noted previously in this book, was about to set out to find the last resting place or rather the resting place before the last, of an American prospector who had died miles away in the forest (in the kind of place one would

expect a prospector to die in) seven years ago. The relatives had arranged to have his body exhumed and had supplied three special nested coffins for the purpose, which were to accompany the Belgian official on his weird quest.

There was, before the drop in the price of rubber, a brisk trade in this product at Avakubi and throughout the Stanleyville district. It was collected principally from the Funtumia rubber trees which grow to a gigantic size in the Ituri forest, but also from the Landolphia vines. The "green" rubber is brought in for sale sometimes in big blocks or more usually in thick coils, which have to be cut up into sections and dried on frames to prevent decay. If this drying process is delayed too long, fermentation sets in: the smell thus engendered being some ten times worse than a tannery. For this reason the neighbourhood of one of these drying houses is very much to be avoided. The usual price paid by the trader to the natives for the rubber is one franc per kilo and for ivory, three to five francs.* A licence for buying rubber costs twenty-five francs, and for ivory and general trading five hundred francs, but if a plot is rented from the Government and buildings put up, no licence is required for buying ivory. The export duty on ivory is two francs ten centimes per kilo.

On the northern bank of another great river, the Lindi, which runs down to the Congo on a roughly parallel course to that of the Aruwimi, is Bafwasende, to which we now turned our steps. The distance is about fifty miles, forest and palms all the way. This strip of country between the two big rivers is the haunt of a fair abundance of game for

* Palm oil can be bought at 50 centimes a pint, other nut oils—ground nut melon seed, kola, and castor oil—at 1 franc per pint.

those who have the patience to hunt in the forest; there are many chimpanzis, and the giant yellow-backed duiker,* as well as the bongo, the red buffalo and the red forest hog; there is also a small red tufted duiker and the grey pygmy duiker, the latter being netted and dried for sale in considerable numbers. We of course saw nothing more of them than their spoors, although we several times heard the call of a chimpanzi. Nothing more exciting occurred on this part of our journey than the snatching away of a little nondescript dog by a leopard, in the early hours of the morning. The poor little beast was the idol of a native woman accompanying our "safari," who was so attached to it that she would wash and comb it daily. It was a dear little thing, and as it used to knock about our camp and follow us on the day's march both my wife and I became quite fond of it too. The owner, although a grown woman, cried like a child at her loss.

At Bafwasende we were amongst an interesting and intelligent race of negroes called the Wabali, some of whose strange characteristics and customs are well worth recounting here, especially as very little information has ever been published concerning them, and moreover, I think it probable that the photographs in this chapter illustrating the *Mambela* ceremonials are unique.

The Wabali are of Bantu affinities and their country is, roughly, contained within the districts administered from the *postes* of Avakubi, Bomili, Panga, Kondololi, Bafwaboli and Bafwasende; it does not extend, however, to the north side of the Aruwimi River. The *Mambela* secret society

* The yellow-backed duiker is known amongst the Mobali natives as the *Moimbo*. The red forest hog as the *Nguia*. The bongo is *Bangana*, and the black giant hog is known as the *Boko*. The pygmy duiker is the *Mburuku*.

and the *Anioto* sect of Human Leopards are amongst their savage customs. These are as singular as any to be met with in Africa to-day.

In spite of these natives being the wildest savages and using nothing but bark cloth to cover themselves with, they, nevertheless, old and young alike, present a rakish (not to say " nuttish ") appearance, with a strut on them that might possibly put an old time hussar in the shade. The said appearance is obtained by the men adorning themselves with brass armlets and anklets, snake and monkey-skin belts, bags, bandoliers and other trinkets, but principally by the bobbed, plumed and furred head-dresses they wear, set on the head at a rakish angle. Some of these hats are works of art, mostly made out of parrot plumes and monkey skins, and sometimes held on with ivory pins ; others again have a bunch of plumes dangling at the end of a piece of springy bamboo. The resemblance of these headgears to the whimsical Paris fashions is so striking that one is led to believe that the latter must have originated on the Congo !

Regarding the curious customs of the Wabali, the following notes on the *Mambela* ceremonials and other customs are interesting. They were very kindly supplied by my friend Monsieur R. d'Aôut, the *Administrateur* of Bafwasende, a Belgian official of much intelligence and much liked by the weird Wabali.

Some Customs of the Wabali Tribes.

Amongst the various tribes which inhabit the Oriental Province of the Congo, the Wabali are remarkable for their famous religious rites called the *Mambela*, characterised by

C. Atubengwele, a Wabali Chief. A savage and interesting personality, with just that touch of the born leader that enabled him to hold out for ten years against the Belgian *régime*. He had his lip pierced and extended, as an example to the Wabali women to do likewise and so escape the fate of slaves

¶ The Mubali native on the left is an *ishumu*; the man on the right a *tatakamambela*. Both are in the ceremonial costume of the *mambela*.

intricate ceremonies accompanied by wearisome rites and great cruelty. The order, as it were, is under the high presidency of the *Tata-ka-mambela*, which title is equivalent to "Grand Master of the Mambela." He alone acts as the supreme chief of several clans, when these are not too far apart or too numerous.

The *Tata-ka-mambela* is appointed by birth. He is succeeded in his functions by his own son, or, failing a son, one of his nearest relatives. The *Tata-ka-mambela* is the custodian of the fetish. He is assisted by several soothsayers or headmen called *Ishumu*, usually found in most of the largest villages, and these are also from birth appointed to act later on as *Ishumu*.

The *Tata-ka-mambela* does not bear any distinctive insignia, whereas the *Ishumu* are distinguishable by several rings which they wear on the fingers, a broom made of palm fibres and several tattoo marks shaped thus ⋑ ⋐ which cover their chest, abdomen, shoulders and arms. Probationers have the same marks, but on the chest and abdomen only.

The executive power is vested almost exclusively in the *Ishumu*, which is the reason why they enjoy such a high prestige amongst the Babali tribes. Many of them have indeed the powers of a minister of State.

The Babali see in the *Mambela* rites a system of physical culture for children. Initiation is carried out in the following manner :—

All the Babali of the male sex must be initiated. When the *Tata-ka-mambela*, upon the advice of his *Ishumu*, announces that the time of the *Mambela* is drawing nigh, all the boys between ten and fourteen years of age are presented to the High Priest by their father, or, in the absence

of this latter, by a near relative. Boys stricken down with illness are allowed to await their recovery. As to those who may have left their native village when still too young to be initiated, their return would not exempt them from the *Mambela* rites, for no exemption is admitted and neither age nor marriage would justify any dispensation being granted.

On the day of the ceremonies the probationers are brought together in the early hours of the morning in the village square, where the initiated have been dancing for the greater part of the night ; and where they have got ready a quantity of twisted rods from two to two and a half metres in length, from which, at one end, part of the bark has been peeled off.

At a given signal the women who happen to be in the village must withdraw ; they may not, under any pretext, get near the place where the initiation rites are being carried out. Indiscretion on their part would mean instant death. When the initiated have made sure that the women have withdrawn, a second signal is given. This is the moment for the initiated from the neighbouring clans to repair to the hut of the *Ishumu* appointed to preside over the ceremony. They all carry several rods as weapons, and fall in, in two files, the one behind the other. The probationers to be initiated, issue from the hut of the *Ishumu* and join up to the ranks of the initiated, who rain upon them an avalanche of blows. The boys are beaten all over the body by all the men present, and this is done with such brutality that it is not unfrequent for some boys to lose an eye or an ear or to be made an invalid for several years to come. However, accidents or injuries resulting from flagellation are never

¶ Wabah women being whipped for having inadvertently seen part of the *Mambela* Ceremonies.

¶ The *maîtres de danse.*

¶ The Spartan Feat of a Mubali Native, whose half naked-body is being slashed with the knotty whip sticks of the *mambela.*

made the object of any quarrel. Blows and injuries and wounds are borne patiently and without protestation by the probationers, and the loss of a limb is even considered by them as a good omen. Usually, in this flagellation, which is called *Kupisa mbaka muleju* and lasts for several hours, all the neophytes are covered with blood.

This performance is followed by the *Woko*. A delegate of the *Tata-ka-mambela* or of the *Ishumu* strikes twice each one of the boys with a rod which is somewhat shorter (about two metres), in order to announce that the first sitting of the flagellation is at an end. Whereupon the neophytes return near the hut of the *Ishumu*, where they remain until the next day. During the night great festivities are in progress. All the initiated attend as guests. Meanwhile scenes of a particularly disgusting nature take place. For instance, any initiated who has to relieve nature may do so all over the body of one of the wretched neophytes.

The next morning the *Mogo* ceremony is gone through. All the people of the village go out to the palisade erected the previous evening by the initiated with the rods which had served for the flagellation. This palisade has an aperture called "Door of the Mambela." The initiated go through that door, and, provided with fresh rods, fall in in two files. The neophytes, stark naked, then go through the door and join the ranks of the initiated, who perform anew the flagellation rite with the same brutality as the first time. The neophytes, during this second performance, very often are beaten unconscious and lie motionless on the ground. This flagellation is called the *Mogo*.

Next follows the *Mukokoneki* rite. Several small and very flexible wands have been gathered together wherewith

to strike the neophytes on the hands and knees, after which one of the delegates seizes a rod and drives them away towards the glade, some thirty or forty metres distant from the palisade. This anodyne performance is called *Poboli*. When they manage at last to reach the glade, each one of the neophytes is administered another stroke of the rod. This flagellation is called *Makwabo*.

Tattooing

When the *Ishumu*, delegated to perform the initiation rites, accompanied by the other elders, reaches the glade, the neophytes are lined up blindfolded. The *Ishumu*, armed with a small knife called *soda* proceeds, by small leaps and bounds, towards the neophytes, and very skilfully makes eight incisions on their skin, four to the right and four to the left, shaped thus: ⋑ ⋐ Whilst this operation lasts other *Ishumu* are fanning the chests of the neophytes with feathers of the bird called *Nasasa*, whilst others, with small boards, very flexible and revolving round a pivot, imitate the flight of the sacred bird, the gongs meanwhile being beaten *en sourdine*. It is supposed that the *Nasasa* bird itself, with his bill, is making the incisions.

This ceremony over, the neophytes cover themselves with banana leaves, which serve as a dressing for their wounds. They are then led back to the hut of the *Ishumu*, retracing their steps through the door of the palisade. There, they are given very severe instructions. They must in particular keep the most absolute secret concerning the *Mambela*, on pain of being put to death by poison. They must believe that the agency was the sacred bird *Nasasa*, whose flight they heard and whose wings they felt on their

chest, which made the incisions. This bird is an object of worship and must never be killed.

This flagellation, which was administered to them with so much cruelty, has for its object the hardening of their body into endurance, and serves as a sort of preliminary test before making the incisions, which are very painful and cause a great loss of blood.

On the third day, in the small hours of the morning, there takes place the final flagellation, the object of which is to exercise and render more supple the limbs of the neophytes. This is called *Mbaka mulefu.* It does not last more than an hour after which the newly initiated are led into the forest where they are to spend several weeks in deep meditation. Arrived at the place where they are to remain in seclusion, they may wash their body for the last time until their wounds have completely healed up, and then they may anoint themselves with palm oil.

Observations on the Rules and Instructions to be complied with during the time of Probation.

(1) From the moment the tattooing (incision) ceremony is over, the newly initiated bear the name of *Maganza*—which means young men. They are put, several together, into one hut and placed under the supervision of a guardian. This supervision lasts two or three months—even as long as six months—according to the customs peculiar to each of the various Wabali tribes.

The probation period being over, the newly initiated are, according to the native expression, "ducked into the water," and are hereafter entitled to be called *Babali*, that is to say "men."

(2) The probationers may not have their hair cut whilst they are undergoing probation.

(3) The *Maganza* wear round their neck a heavy collar made of palm-wine tree (raphia) fibres.

(4) During the period of probation the *Maganza* are forbidden to look at any of the large beasts of the forests, such as buffaloes, elephants, antelopes, under penalty of being flagellated for their so doing.

If a *Maganza* should come across such a beast, dead or stricken down, he must immediately inform his father or a near relative, who would at once repair to the spot in order to remove the head and the feet of the animal and hide them. When this has been done the rest of the carcass may be looked at.

(5) Whilst they are on probation the newly initiated may not approach a woman or even look at her.

The Maduali

The *Maduali*—also called *Nyama ya Mambela*—which means "the Beast of the Mambela"—is nothing else but the fetish entrusted to the custody of the *Tata-ka-mambela*. In other words, it is a roughly carved piece of wood representing the sacred bird *Nasasa*. When rain is wanted, or when it has been raining too long, or upon the occasion of certain festivals, they remove a few pieces from the *Maduali* figure-head, cover them with foliage, and the men go in procession through the village, singing and shouting. Women and children must keep away and not look at the *Maduali*.

Evolution of the Mambela Rite.

(1) The *Mambela* rite is observed by all the Wabali

A Wabali Dance in Progress.

¶ A Wabali Dance in Progress—Another View.

tribes, without exception. General observances are everywhere the same, and may never have been altered, at any rate in recent times.

(2) Flagellation is of a somewhat milder form in those clans which are nearer to the Government station.

(3) The seclusion of the newly initiated in the midst of the forest was formerly of much less duration; those whose wounds had not as yet healed up were allowed to complete their recovery in their own village, although in a hut intended for that purpose. The longer period of seclusion in the forest is attributable to the immigrant Arabs, who caused same to be imposed so that they themselves might have better chance of going hunting.

(4) In normal times, flagellation may be tolerated and considered as an amusement rather than as a religious penance, for in this case it is carried out with much less cruelty, inasmuch as the probationers have their body well protected against the strokes of the rod. Custom will have it that, upon the return from a hunt which has been fructuous, to cite but one instance, the hunters are welcomed back to the village with dancing, one of the features of which is reciprocal flagellation with rods.

The Barumbi and Bakumu of Bafwasende. Palavers: Marriage for a Dowry.

Palavers between natives in the territory of Bafwasende are mostly in reference to women. Certain rules are scrupulously observed by the natives as to the way such palavers should be conducted. These rules are frequently as follows:

(*a*) If a husband should die, his heirs claim the wife and legitimate children of the deceased.

It very often happens that the widow refuses to cohabit with one of the heirs ; in this case, a portion of her dowry, very often a moiety thereof, is returned to the heirs. If the widow re-marries a man who does not belong to her deceased husband's clan, she is allowed to have the custody of her children until they are of marriageable age.

(*b*) If a wife should die in the hut of her husband, this latter, in such case, is not entitled to claim any portion of her dowry, but he has the custody of the children—issue of their union.

(*c*) If a wife should die away from home, in the midst of her own family, or if she has been dismissed by her husband or gone away with his permission, the husband, in such case, and if he has no children, is entitled to a portion only of his wife's dowry. But if he should have a child, he is barred out altogether. The child or children, issue of his union, remain with him.

(*d*) If the wife should run away from home and desert her husband in order to get married elsewhere, the husband, in such case, is entitled to the whole of her dowry and has the custody of the children issue of his marriage.

(*e*) If the husband should repudiate his wife and drive her away from the conjugal domicile, he is, in such case, entitled to a portion of her dowry proportionately to the length of time his wife lived with him. If there be any children issue of the marriage, they reside with their mother until they are of age to arrive at a decision as to what they intend to do. If the children are girls, their father will later on be entitled to claim part of their dowry.

(*f*) If a polygamous wife or a wife acquired by heritage should be desirous of regaining her liberty, she is given every

C. African Bugs (immature forms of Fulgoridæ sp?) mimicking a spray of flowers. From the Katanga Highlands of the Belgian Congo. The abdomen of this insect is covered with fluff resembling feathers.

¶, The Aard-Vark (or Ant-bear). This animal, although common in many parts of Africa, is seldom seen owing to its nocturnal habits. It feeds exclusively on white-ants, for which it digs with its formidable claws. It walks with its fore-claws doubled inwards. Its weight is 130 lb., and the flesh, which is white, is very good to eat. Its tongue and snout are highly specialized to feed on and smell out its food. To dig these animals out of their burrows requires endless patience and several days' hard work.

facility to do so, but a portion of her dowry goes to the husband or to the heir, proportionately to the length of time spent with her husband.

In case a polygamous wife should leave her husband to go and get married elsewhere, a portion of her dowry would be handed back to her.

A Few Customs of the Babali.

(1) Edemi. The Babali meet from time to time to discuss together some new undertaking, as, for instance, the selection of a new site whereon to rebuild their village, new plantations to be cultivated, some elephant hunt, and so on. Every man is entitled to express his opinion on the subject under discussion, one of the elders having, in the last instance, a casting vote on the resolution which must be carried out.

(2) Ambembe. When a notable, or some woman particularly esteemed, fall seriously ill, the women and girls of the village meet together in front of the hut of the sick, and each of them goes in turn into the hut and leaves a drop of her saliva on the face of the sick to wish him or her a prompt recovery. This custom is called *Ambembe*.

(3) Exchange of Wives. The Babali exchange their wives. The dowry is always represented by another woman, very often by a young girl of ten to fourteen years of age. If both women so exchanged should bear children, their marriage is confirmed, also if they have no children. But if one of the wives so exchanged is fruitful and the other sterile, the husband of this latter is entitled to indemnification in the shape of another wife. Europeans are greatly opposed to this exchange of wives, and still more so to the surrender of young girls by way of dowry.

From the foregoing it will be seen that the Babali are indeed a curious mixture—intelligence and barbarity, vanity, cruelty and superstition are mixed up with such likeable qualities as politeness, good nature, cheerfulness, unlimited patience, and dog-like trust in the white man, with no real malice or vice in their composition. One takes a liking to them as one would to a good dog and in spite of oneself. Dog eats dog sometimes but nevertheless they may still be likeable. The fact is one cannot judge the Babali by human standards. If one attempts to do this one is filled with loathing at their barbarous customs and cannibal propensities.

The sinister streak of extravagant superstition in their natures has been appealed to in some way by the cannibal sect known through West Africa as the Society of Human Leopards—but known amongst the Babali as the *Anioto* —which claims many devotees amongst them.

As far as I am aware, until the last few years, this sect confined its unhuman practices to the west coast of Africa —Lagos, the Gold Coast, Liberia. The sect was hunted down and stamped out in the British Colonies some years ago, but would seem to be rampant in the negro state of Liberia as will be seen from the following cutting, out of *The African World*:—

"The Society of Human Leopards.

"The artificial civilisation of a superstitious race never altogether eradicates their superstitions, but it may modify them. Man in this respect is like the performing dog escaped from the circus; he readily goes back to nature. There is a savage side to certain African aborigines which is only

to be satisfied by the mystery of a secret society with murder and frequently cannibalism as its aim. The suppression in British territories of the barbarous leopard societies has not led to their entire disappearance from the coast. President King, in his address to the Liberian Parliament, referred to an extensive recrudescence of the savage activities of leopard societies amongst the aborigines of the Montserrat and Gora districts of the Liberian Republic. Land and water travel has become increasingly unsafe. Unhappily, we are told that legal technicalities have been responsible for failure in the prosecution of members of these societies, and consequently their prestige has been enhanced. The President of Liberia reports that plenary powers have been secured, and it is to be hoped that the activity of this reversion to savagery and barbarism may be stamped out. It is a grave menace to peaceful trade and existence in the hinterland of the Republic."

It is curious to note how the eradication of this Leopard sect in one part of Africa has led to its re-establishment elsewhere, and how the cult has taken hold of the native mind. Judging by the comparatively recent formation of such a society in Congoland, one is led to believe there may even have been some kind of propaganda at work.

The tale of the *Anioto* Leopards of the Aruwimi is enough to make the blood run cold and keep the imaginative awake at nights, but fortunately the prey of this sect are blacks—principally young and defenceless women and children—not whites. When we arrived in the part of the forest—between Batama and Bomili—which they frequented, their campaign of revolting murders had reached its height, when no less

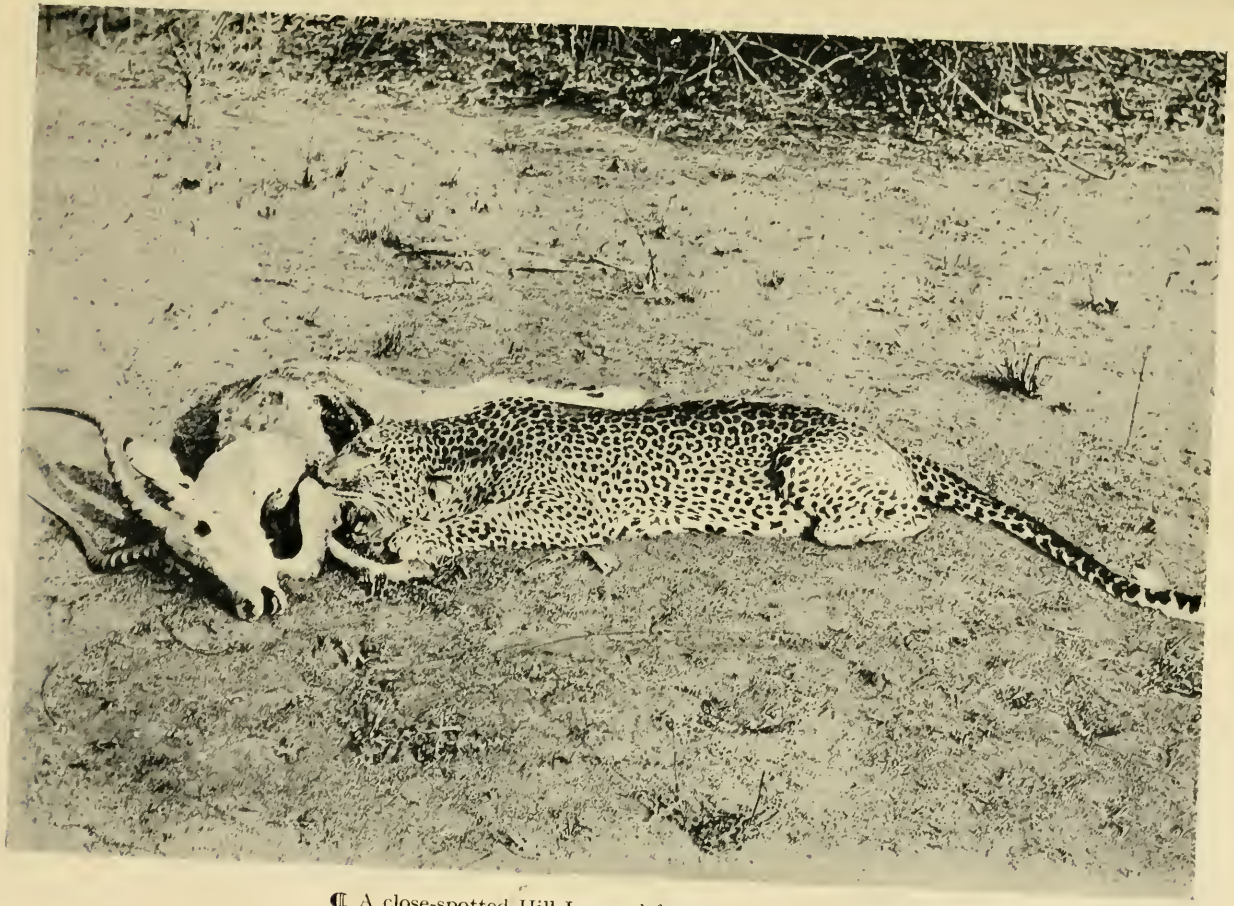
than one hundred and twenty-eight victims had been killed and eaten by them, and thus terrorising the neighbourhood.

Eventually things came to such a pass that the authorities at Stanleyville decided to take action and send a punitive expedition to try and round up this nest of murderers, under the guidance of certain natives who knew their lair, and with Monsieur A. Laurent, the resolute *Administrateur* of Stanleyville as intelligence officer. The expedition was quite successful as far as it went, but it failed to stamp out this pest—over forty murders having since occurred.

The expedition consisted of Monsieur Laurent, Lieutenant Patfoort, Judge Wauters, a Roman Catholic priest and seventy-five native soldiers. The *Anioto* were located in a trackless part of the forest between the Lindi and Aruwimi Rivers, and being taken by surprise in the early morning, ten of them were captured, some shot and a few escaped. Those that were taken prisoners were tried on the spot, and incriminating evidence being found against them, they were immediately hanged. Amongst the belongings of these horrible people were found the instruments of their sect, in several pairs of the steel leopard-claw knives* for attaching to their hands when on murder bent. Some of these gruesome knives consisted of four sharpened steel claws for tearing the body, whilst others were straight, three-pronged knives for stabbing their victim to death. Portions of their ceremonial costume which they wear when on their diabolical work were also discovered. This consists of brown bark cloth stained to the semblance of a leopard skin which is worn round the loins and over the head in the form of a cowl and pierced with two

* Illustrations of these steel, clawed knives are given in my book, " George Grenfell and the Congo."—H. H. J.

¶ A beautiful Dracrena Tree, used by many Central African Tribes to mark the Burial Place of their Chiefs.



¶, A close-spotted Hill Leopard feeding on its " Kill."

holes to see through. The dress is finished off by a leopard tail being fixed to a belt behind. Other things included bottle-shaped sticks, with the thick end roughly fashioned into the shape of a leopard's pad, with which to give the finishing touch to their ghoulish deeds.

Even if the expedition had not quite the desired result, some interesting facts came to light about the Human Leopards. For instance it was found out that the novitiate of an *Anioto* consisted in his having to live in the forest alone for eight weeks on food he has to kill or find for himself as best he can, but firstly, before he can enter on this stage of the initiation, it has to be known that he has killed a man of his own tribe. Having accomplished these two feats, he is tattooed on the chest *above* the *Mambela* cicatrisations. A notable *Anioto ishumu* or "high priest," who was captured and hanged, had three such cicatrisations on each side of the chest as a mark of his order, and as the identity of these *Anioto* is unknown save by these cicatrices, everyone is on the look-out for them when passing natives in the forest. Three men have been hanged for being in possession of the *Anioto* knives.

It may be taken as said that we were glad to leave these wild and godless tribesmen behind as we pushed on towards Stanleyville. Ever since leaving Irumu the geographical features of the country through which we passed had been mostly hidden by the impenetrable forest, but three days after leaving the *poste* of Bafwaboli on the Tshopo River, the traveller overlooks the steaming lowlands of the central Congo basin, and may imagine to himself the vast inland lake that once stood there in early Mesozoic days, when the gigantosaurus and his brethren ruled over its wide expanse, which

must have been many times greater than even the broad Lake Victoria.

Having descended the last spurs of the forest highlands we soon found ourselves approaching Stanleyville along the newly made motor road that runs towards them across those lowlands, and which it is hoped will one day reach the Kilo gold mines. Our arrival at Stanleyville was somewhat of an occasion for us two, for we had completed the last lap of over two thousand miles; it was moreover the greatest relief to realise that we were to be free henceforth from the eternal petty worries of native porters and servants, and that instead of having to get ourselves along it was now possible to hand over the arduous business to a tireless machine. This last lap had tried our endurance to the utmost, especially so as the latter end of the trip had been marked by violent thunderstorms which occurred daily, making the nights terribly oppressive and the paths wet and slippery.

The Stanley Falls which I visited, and which lie close above the township of Stanleyville, are not imposing or spectacular in any way, although the bar or barrage, reaching right across them from bank to bank, is a remarkable structure. It has been put together pole by pole in a wonderful way by the river fishermen for the purpose of trapping fish. The uprights being of considerable size and weight could only have been placed in position with the utmost difficulty and perseverance; they seem to be held in position by being jammed into "pot-holes" formed in the solid rock along the lip of the fall. As it kept the none-too-well provided town below supplied with fresh food, the loss of this fishing industry must have been felt by the residents of Stanleyville, for

shortly after we left the whole structure was washed away owing to a considerable rise in the river.

We arrived at Stanleyville three days before the departure of the ss. *Sémois*—one of the best boats of the "Citas" Company—which was to take us down the Congo to Kinshasa. She was a most clean and comfortable boat, and thoroughly well looked after by her energetic captain, a Norwegian by the name of Lindvalle. She was a twin-screw flat-bottomed boat and could carry 470 tons of cargo, mostly in her two barges which were roped on either side. Her cargo consisted of rubber, copal, palm kernels, rice and ivory, on this occasion.

With thirteen other passengers we were soon comfortably ensconced aboard and with hoots of farewell were speeding our way round the bend below Stanleyville on our way to the sea.

CHAPTER XIV

A THOUSAND MILES DOWN THE CONGO

" Shadow and sunshine, and plateau and plain,
Vacant horizons and silence supreme,
Mile upon mile of a heathen domain
Framing the scribbler's dream."

" African Authors," Verse 5. By Cullen Gouldsbury.

THE voyage down the mighty Congo on which we had now embarked has so often been described in detail by better pens than mine, that no doubt the long-suffering reader who has been indulgent enough to follow me thus far, would prefer that I give but a passing reference to the incidents of the voyage or to the places at which we touched *en route* ; rather would he prefer to gain an insight into the economic welfare of so great a territory if he be a speculator or financier, or into its social life if he be a missionary or student. To the scientists I have little more to say, hoping they will have picked out from the foregoing narrative what they can find of interest.

What better place could be found for the purpose mentioned than the clean deck of the ss. *Sémois*, as she bears us down on the bosom of this great artery of Africa ? I will therefore attempt to place before my mixed audience aforesaid the Belgian Congo as it is to-day.

The colony progresses rapidly. Even between so short a period as the time taken to commence and finish this book, events have occurred of far-reaching importance, principal among which is the discovery of coal to the south of Bukama in the Katanga, which will revolutionise the copper smelting

industry. Secondly may be mentioned the surprising increase in the output of diamonds by the Belgian-American Company, the *Forminière*, which is likely to reach 250,000 carats in 1921, and the number of new "finds" that their prospectors have made.

But this is not all, for in Monsieur Franck, Belgium would seem to have had a Colonial Minister with an imperial mind, and, what is quite as necessary, imagination. The results of his African tour are already bearing fruit. He has in the first place put his finger on the key-note of successful colonial enterprise, viz., rail and river transport. His policy includes the immediate construction of another line between Matadi and Kinshasa; reorganisation of the upper river steamer service and additional steamers for the lower Congo and its tributaries, as well as a large steamer for Lake Tanganyika; and the construction of warehouses and facilities for handling cargo where congestion has occurred previously—large brick warehouses being now practically complete at Stanleyville, Ponthierville, Kabalo and Albertville. Lastly comes the important construction scheme of the Lower Congo—the Katanga Railway and the joining up of Joko Punda (the navigation terminus on the Kasai River) with the present rail-head at Bukama. This section is only eight hundred kilometres in length, and as construction plans are complete the usual hesitation inseparable from railway projects should be quickly overcome. The more far-reaching, the grander scheme of the Lobito Bay Railway has by no means been lost sight of, and the final survey of the 650 kilometres from Fungurumi and along the Congo-Zambezi divide to the valley of the Upper Kasai has lately been completed by Belgian engineers.

The Belgian Colonial Minister has long ago realised the value of colonial propaganda; hence one hears and reads vastly more than one used to a few years ago of the progress of Congoland, to the benefit of both Belgium, the Belgian Congo and African affairs in general. The Congo is losing its bad name under this influence and attracting a better class to the territory; even one hears, although with much scepticism, of Belgian settlers. I say "with scepticism" as it is not in the nature of Belgians to settle abroad; few, if any, make of their work in their African possession a life career.

In all this, Minister Franck has perhaps some of the ablest and wealthiest advisors and coadjutors of the present day, in the persons of King Albert and the directors of the many *concessionnaires* and other companies connected with the Congo, amongst whom are found such names as Mr. Robert Williams, the Right Hon. Earl Grey, Lord Leverhulme, the American magnate Mr. Guggenheimer, the brothers Jadot and Mr. Robert Goldschmidt, as well as the many shrewd members of the Belgian African Club and the *Union Coloniale Belge*. Then again General Malfeyt, General Tombeur, Colonel de Meulemeester and Colonel Moulaert are colonial administrators of tried ability. The appointment of Monsieur Lippens to be Governor-General of the Congo, although unpopular with many colonial Belgians (as he has had little to do up to now with African affairs) is nevertheless likely to prove a suitable one, as colonial administration more than any other is inclined to get into a rut and "new blood" is eminently desirable in a tropical colony. I am therefore entirely in agreement with Monsieur Franck's lately expressed views to the Press on the appointment.

Although only still half-realising the value of their possession, the broadening effect of the war has left a profound impression on the Belgians, and has had a great deal to do with their awakened interest in the Congo. There is now unity amongst them, a greater *esprit de corps* bred in the trenches of Flanders and on the steppes of German East Africa, that will carry these sturdy, industrious people, with the untold riches of the Congo behind them, a very long way indeed. They have proved their worth in the late war and in the tenacious hold they retained on the Congo from the early days—when with a mere handful of white men and irregular black troops they broke the Arab power—up to now, when they have shown such surprising ability in the training of their native soldiers.

Without going into unnecessary details concerning the great industries set afoot in the Congo, its labour and food supply, its problems and its perils, let us first pass in review the riches that lie garnered twixt the four corners of this forest empire, that when properly exploited will draw to them the jealous eyes of all Africa.

The outstanding feature of the Belgian Congo as a colonial empire, and one which will contribute to its speedy development more than any other, is its compactness, " all its eggs are in one basket," so to speak—the Congo basin ; and many of them can be reached and (to carry on the metaphor) hatched out, through its network of waterways. True, the Kilo goldfields and the Congo copper belt are on the edge of the basin, but they are both rich enough to attract to themselves their own transport systems without outside help. Starting therefore from the south we find mountains of copper being blasted away and smelted with the most up-to-date machinery

it is possible to devise, and a new concentrating plant about to come into operation, upon which, with railway accessories and mine development, the *Union Minière* has lately spent £3,000,000. Then in the same concession to the north and north-west we find tin, gold, cobalt, uranium, platinum, and now coal, which together with the copper are set in a well-wooded, well-watered, well-populated, upland country suitable for agriculture (and on the plateaux suitable for stock raising) and supplied by the Katanga Railway. Still farther to the north again, but off the Katanga highlands and near the junction of the Luvua with the Lualaba River, there is the rich *Géomine* tin mine with an ever increasing production, which will presently reach an output of 1,000 tons of cassiterite annually. Then taking a turn to the east outside the Congo basin, we find in the newly-acquired kingdom of Ruanda, one of the richest cattle countries in Africa, which has lately attracted the attention of both the Liebig Meat Extract Company and the Kemmerich Meat Company. After that we pass on north through a wonderful ivory-producing country to the rich gold district of the north-east, where the Kilo, Moto and Senguli Mines are on the eve of increased production with modern machinery. Leaving these mines and travelling west through the largest forest in Africa we pass across the north central Congo basin where at first we find, besides more ivory, vast stores of rubber being exploited, a large production of good-quality rice; and then, farther on still, we arrive at the centre of the immense palm-oil industry of the *Société Anonyme des Huileries du Congo* with Lord Leverhulme in command, which has expended a similar vast sum to the *Union Minière* for accessories and development, and which owns a fleet of five large steamers

on the Congo River. Again passing from the north central Congo back to its south centre, and after touching the copal-digging industry,* we reach the Kasai diamond fields and still another rubber-producing area. The *Société Internationale Forestière et Minière du Congo* or the *Formière* Company work the Kasai diamond area and now employ over one hundred and forty whites and more than eleven thousand natives. Again we find at Mayumbe, plantations of cocoa which in 1920 produced a million kilos of this commodity, and also in the Kasai and Lomami districts the agents of a new firm, styling itself the *Compagnie Cotonnière Congolaise*, are at work on cotton planting and the fostering of the industry amongst the natives: two ginning mills are in course of construction and a supply of hand gins are being placed at various centres.

As a summary of the foregoing I give the export statistics of the Belgian Congo for the years 1914 and 1920 in the order of their value.

Product.	Weight in kilos. 1914.	Weight in kilos. 1920.
Copper ..	.. 10,343,436	30,000,000
Palm Nuts	.. 8,052,176	50,000,000
Palm Oil	.. 2,498,386	20,000,000
Rubber ..	.. 2,248,839	2,500,000
Gold ..	.. 930	3,800
Ivory ..	.. 295,496	400,000

* Copal, which is used in Europe for making varnish and by the Congo natives for glazing pottery, is a resinous gum obtained from a species of swamp tree, the *Copaifera demeusei*. It is obtained from the living plant, but the best quality is recovered from dead trees deep down in the marshes, where it is located by means of long sticks. Similar resinous gums are used by the natives of the eastern Congo for the making of torch-candles: the gum is smeared in between small bundles of dry rushes and burns smokily with an aromatic smell. I have never seen any other kind of indigenous illuminant used by natives in the Congo.

Product.	Weight in kilos. 1914.	Weight in kilos. 1920.
Copal	6,993,063	9,000,000
Diamonds ..	24,000 carats	250,000 carats
Rice	422,237	10,000,000
Tin	30,947	500,000
Cocoa	482,360	1,000,000
Skins	81,850	400,000

The total value of the exportations from the Belgian Congo for 1920 reached the respectable figure of close on 200,000,000 francs (two hundred million francs).

The three important centres of the copper, gold and diamond mining industries are fortunately very favourably placed for native labour, for the Katanga, Kilo and Kasai districts are all well populated and should, if the labour supply be well organised, meet the majority of the labour demands. The latter conditions are to be found in the Kasai and Kilo, but in spite of the good treatment and liberal pay offered to native labour on and around the Katanga mines, sufficient local labour is not forthcoming in this district and so natives have to be recruited outside it. The population of the Katanga highlands is put down at two millions, and as only sixty thousand natives are required to meet all demands, it should be possible to find this number locally. Truth to tell, work on the Katanga copper mines has been made unpopular with natives, not by reason of their treatment by the recruiting bureaux or agents of the *Union Minière* (for this leaves nothing to be desired), but by reason of their maltreatment at the hands of unscrupulous contractors, mostly Greeks. Doubtless a more suitable adjustment of labour and the settlement of other questions in the Katanga

could be better brought about by a more vigorous administration under a Governor with a freer hand and acting independently of Boma.

In comparison with English standards, labour in the Congo is cheap. Ordinary local labour for portage or plantation work costs about thirty-five to forty centimes a day anywhere in the Congo, with the exception of the Katanga. Here, however, the pay of natives has advanced out of all proportion owing to the inducements offered by the contractors, and a good native now asks from two to three francs a day inclusive of food. The Belgians keep prices down, the foreigners put them up.

Task work is the order of the day in the Katanga and on the mines, but is not generally adopted throughout the Congo. Giving a set task to a native and paying him for any work done over and above the stipulated amount, I believe to be the only way to work natives successfully. The native population of the Congo is now put at ten millions, but epidemic diseases being kept in check, it is increasing considerably, which increase should be enough for all ordinary requirements when properly organised.

It will be seen throughout these notes that the conditions existing in the rich province of the Katanga are continually cropping up as differing from those at work in the rest of the colony, which may be taken as an advocacy for its administrative independence. Again in the matter of food for native labour, the Katanga does not supply enough for its needs, having to buy in South Africa, and thus presenting a defect in its agricultural policy or a want of organisation in the supply of food from other districts. Whereas the food supply is more than sufficient, in fact there is a large surplus—for the

remaining portion of the great Dominion, the Katanga district stands out alone as unable to meet its wants in this respect.

Lastly we come to the perils—the White Man's Burden—the price of Empire which Belgium, having once put her foot on African soil, will one day have to pay; for the Ethiopian question looms darkly across the horizon, by no means of immediate urgency but nevertheless of imperative importance, as evinced by a report that reaches me as I write of a local native rising in the Lulonga country, headed by a disbanded soldier. The fact that these insurgents are entrenching themselves may be taken as a sign of the times.

> What if the White Man's Burden, heavier day by day,
> Should swell like a leaden millstone, draining his strength away?
> "Nay, they are only children!"—that is the parrot-cry.
> Aye! but there have been children whose brains were fashioned awry!
>
> Still are the coils about them, and the cobweb bonds of Fate,
> But thunder follows the silence—and issues may lie in wait;
> Issues undreamt and buried down in the deeps of Time,
> Issues no man may measure in careless strings of rhyme.

The oft-heard cry in the Belgian Congo, "not in our time," no longer holds good, since the war has speeded the pace of progress. Issues may lie in wait, for it is not generally realised that the natives of the Congo basin form a homogeneous whole, speaking nearly-allied Bantu tongues, and all using the Kingwana (Swahili) *lingua franca*, undivided by creed or caste and possessing a high order of intelligence only equalled by the Arab himself.

We have our native problem in South Africa and for many reasons which need not be given here the issue is scarcely in doubt, but it is mere child's play to the proposition that Belgium has to solve in her trained active and time-expired native police and soldiers, who form the dangerous factor

in the social life of the Congo. It must be remembered that after his seven years' training the native soldier is at liberty to leave the service and many of them do so, with the result that as time goes on fresh recruits are trained, replacing those disbanded, with the result that every village in the Congo contains one or more such men. Being idle and having had just that touch of authority thrust into their hands sufficient to make them restless, they constitute the menace to which I refer. There can be no "colour bar" in the Congo and safety lies only in the co-operation of the more intelligent and enlightened heads of the people, in developing the resources of the country along lines that will give them a share in its prosperity.

The ray of light (as it seems to me) that will enter to dispel the gloom of menace is education, *not* religious psalm-singing instruction, but an industrial education containing the elements of religious training that would fit the intelligent native for industrial and business life, and induce him to support a stable government. Such a teaching is required as that given below, which was so finely formulated by the American—General Armstrong—as long ago as 1870, when speaking on the education of the American negro, and which has been taken for the guiding principle of the African Educational Commission and the Trustees of the Phelps-Stokes Fund when they designed plans to meet the educational needs of the native races and the present and prospective demands of West African Colonies.

"The education needed is one that touches upon the whole range of life, that aims at the formation of good habits and sound principles, that considers the details of each day, that enjoins, in respect of diet, regularity, proper selection and

good cooking ; in respect of habits, suitable clothing, exercise, cleanliness of persons, quarters and ventilation, also industry and thrift ; and in respect of all things, intelligent practice and self-restraint.

" In all men, education is conditional not alone on an enlightened head and a changed heart but very largely on a routine of industrious habits, which is to character what the foundation is to the pyramids. The summit should glow with a divine light, interfusing and qualifying the whole mass, but it should never be forgotten that it is only upon a foundation of regular, daily activities that there can be any fine and permanent upbuilding. Morality and industry generally go together."

If this chapter should chance to be read by those in authority at the Belgian Colonial Ministry, let me recommend the work of the African Educational Commission, as a basis for a successful native policy in the Belgian Congo.

With this chapter and this book, having faintly conjured up the Congo Wonderland as I see it, a few more lines are necessary to fill in the picture as the ss. *Sémois* completes her ten days' trip from Stanleyville to Kinshasa.

We are by now well on our way to Stanleypool and as I write we are in the neighbourhood of Lake Leopold II. Some of us are considering the possibility of the existence of a subterranean lake in Central Africa to which Lake Leopold may be an entrance, and in which the last gigantosaurus may have died ! We have experienced several tornadoes ; we have passed George Grenfell's grave at Basoko and many another too ; the many model " factories " of Messrs. Lever Bros. have gone by and we have seen the Belgian seaplanes,

and the new hangars, and the hundred-and-one varied scenes of native life. All have flitted by between the islands and round the bends of the far reaching Congo. Presently we find ourselves opposite the landing stage at Kinshasa and about to begin the hunt for sleeping accommodation (which is one of the crying wants of the town, for the only good hotel is always overflowing), but not finding it we have to sleep aboard the *Sémois*.

In three days' time we are rattling our way to Matadi Port and being shaken to bits in the antediluvian railway carriages of this line. So bad are they that all the women passengers were sick and the rest of us were tired out with such an ordeal.

The ss. *Anversville* lay waiting for us by the wharf at Matadi and so we came to the western sea. Having entered Africa on the east by the Zambezi delta we left it, after ten years, by the Congo estuary.

CHAPTER XV

ON ELEPHANTS; ALSO AN ADVENTURE WITH A CROCODILE

"At first—in other worlds, it seemed—the wilderness was free,
A man might go where'er he dreamed, nor pause to pay the fee,
Out of the Herd might take his toll earned at the risk of death,
Wander afar beyond control, caressed by Nature's breath—
The world was wide—the Herds were strong, and killing was no sin,
No Law but sportsmanship he knew—no Ring Fence hemmed him in."

The Ring Fence. Verse I.

AS I look back upon the ups and downs of my life in Africa, which began twenty-three years ago, that part of it spent in hunting elephants for a living stands out more vividly than any other. The open-air life, the ever-changing scene amidst the game-haunted solitudes, appealed irresistibly to a, perhaps, too romantic temperament, and so has stamped itself indelibly on my memory.

My hunting trips in search of good ivory and rare animals often took me to all kinds of out of the way places, bringing many adventures, and after many years, an intimate acquaintance with elephant folk about which I am now to write. These expeditions have taken me into British and Portuguese Nyasaland, Portuguese Zambezia, late German East Africa (Tanganyika territory), Northern Rhodesia and the Congo forests.

In my experience, as a hunting ground for elephants, there is no region in Africa to-day to compare with the Ituri forest, and the long-grass country to the south and north-east of it. I believe the record tusks are yet to be obtained in its vast and untrodden depths, a sufficient incentive indeed for any big game hunter as the record now stands at 226½ pounds for a single tusk.

¶ An enlargement from a cinematograph taken by the Author of two Elephants passing before the camera, near the Semliki River.

¶ A Tuskless Female Elephant. The vital spots where to shoot an elephant can be easily gauged from this photograph. The ear-hole being one (*not* between the eye and the ear); the heart shot is another. Both spots are marked with a cross. The ear of a male elephant reaches farther down the shoulder than in the female. One of the glands on the temple (mentioned in this Chapter), in which are to be found pieces of stick, shows wery prominently.

Elephants

Hunting in the thick forest is of course difficult and dangerous work, but with ordinary precautions, steady nerves and a heavy rifle, not more so than elsewhere. As heat and thirst are scarcely to be reckoned with in the shade of the forest, and there being always the possibility of bagging rare animals such as the okapi and the bongo, the district has much to recommend it. Then again the northern extension of the forest is the haunt of a race of pigmy elephants of possibly greater interest than those to be found near Lake Leopold II or in the swamps of the French Congo.

Referring to these dwarf elephants, puts me in mind of the so-called " bamboo " elephants to be found in the forests of the Kivu volcanic region farther to the south. They would appear to be an intermediate race between the large East African species and the pigmy one. From one specimen that I saw in the Bugoie Forest, although comparatively small for what was, without doubt, an adult male, there was little to distinguish it otherwise from an undergrown ordinary elephant excepting its tusks. These were remarkable, in that they were thin and finely pointed like those of a female and of a perceptibly pinky-red colour. This observation proved to be correct, for later on when visiting Kisenji Monsieur Verhulst showed me a pair of tusks from the same forest, coloured in this fashion, and of the same thin, straight shape. Their bright colouring is at once discernible by the most casual observer. These again, I was assured, were those of a fully grown male. Their weight was, if I remember rightly, about fifteen pounds.

Mention has been made in a previous chapter of the very

dark brown ivory frequently seen in and about the Ituri Forest. The tusks in question are so dark,* in fact, that they may best be described as looking as if they had been heavily smoked, and are in such striking contrast to the well known ivory colour that one is at a loss to account for it. As the elephants to be found in the grass country bordering on the forest have the usual white tusks and as food in all animals affects to a large extent the growth of their teeth, tusks and horns, it is most probably occasioned by the type of food that the forest elephants prefer.

Whether the staining process occurs externally around the lip of the animal or within the tusk itself, I would not like to say. The fact that the part of the tusk imbedded in the head is not blackened proves nothing, as the " bark " of the ivory may become dark on exposure to the atmosphere as the teeth grow downwards. Although the Congo forest ivory does not fetch such good prices as the white quality, it is nevertheless much sought after as the " bark " of the tusk only is coloured, and not the solid ivory itself.

It is a noticeable fact and one which may have a bearing on the subject, that the droppings of all the forest elephants are affected to such an extent by the chemicals contained in the class of food they eat, that they are, as a rule, black instead of the usual brown colour.

The Pigmies, who are located all through the central and eastern portion of the Ituri Forest, are in a way indispensable to the hunter, but too much reliance must not be placed on them. They all have " their axe to grind," and in their cunning way will try and make the hunter

* Similarly dark-tinted ivory is found in the dense forests of Liberia.—H. H. J.

believe that an elephant he has badly wounded and which may perhaps be lying dead half a mile away, has only been slightly wounded or even not at all, afterwards either stealing the tusks or following up the wounded elephant and killing it for themselves. Personally and contrary to the ideas of other sportsmen, I have no time for the Pigmy as a tracker or guide, much preferring the half-breed Swahili hunters born in the forest, who besides being intelligent, will, for hard cash sell you any secret, and take a man to the forest fastnesses where the big bulls are to be found.

These half-breeds are, of course, adepts at all kinds of roguery and live on the proceeds obtained from illicit ivory hunting and trading. When out of powder for their old muzzle-loaders, they organise the Pigmies in the setting of cunning elephant traps, with which the forest abounds. These usually take the form of heavy iron harpoons embedded in a section of ten-inch timber, which formidable and dangerous weapon is slung high up over an elephant track between two trees, in such a way that the animal passing beneath sets off the trap himself, receiving the weighted spear in the centre of its shoulders. With another method, that of large pit-falls, the natives are not very successful; the elephant in many cases is intelligent enough to heave himself out, at other times being helped out by the trunks of his comrades.

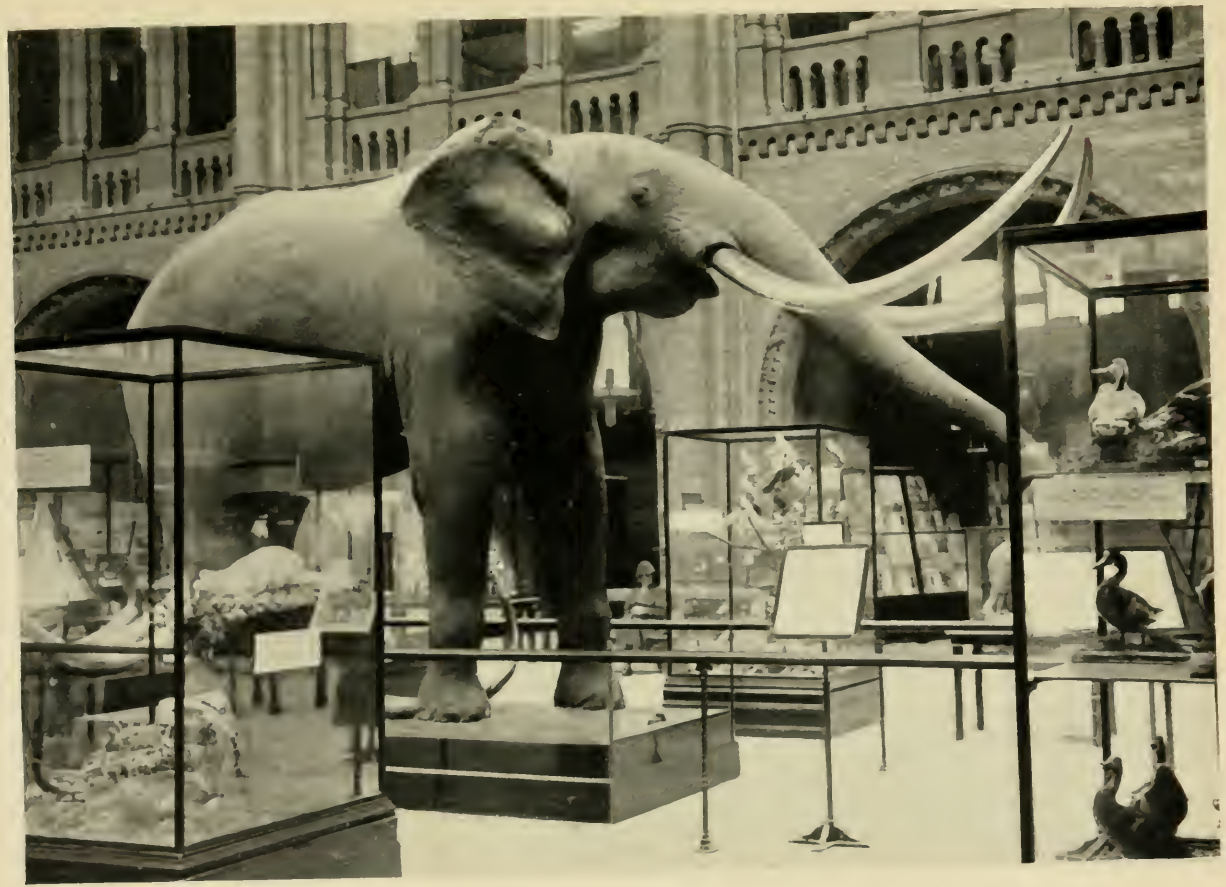
Before passing on to describe a few out of the many hundreds of experiences with elephants that have fallen to my lot, and for the benefit of the big-game hunter who would prefer a more accessible and less dangerous hunting ground in the Congo, let me recommend him to try either the lower Luvua River that flows out of the north end of Lake Mweru, which place is easily accessible by the Cape to Congo Railway,

or the Kwengo River, an affluent of the Kasai, which is easy of approach in these days, up the mouth of the Congo River to Kinshasa. Anyone who visits either of the places named will not be disappointed in regard to the trophies they obtain, July being the best month to select for the trip.

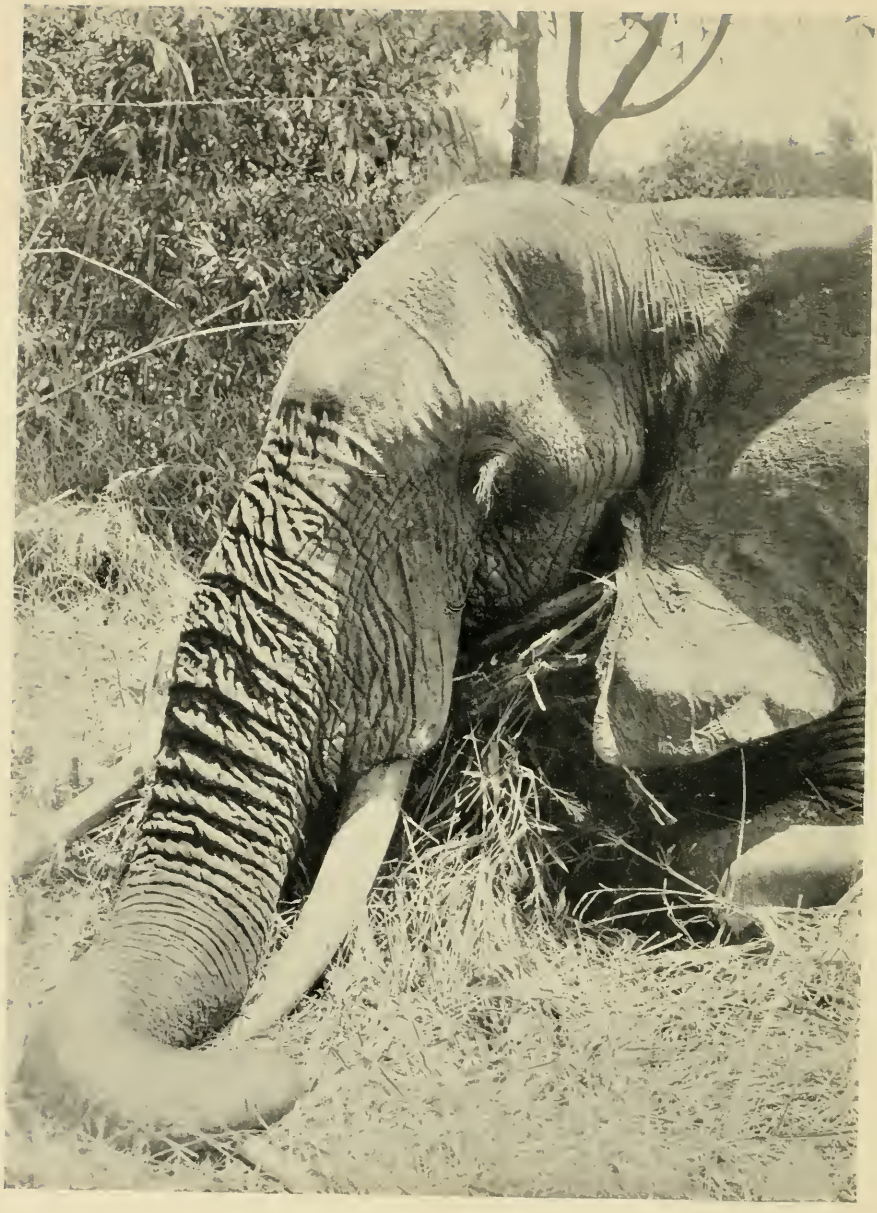
Most people who have visited the South Kensington Museum of Natural History are acquainted with, and have stood and admired as I have done, the fine stuffed specimen of the African elephant standing in the central hall of the building. As this is one of my earliest endeavours in field-naturalist's work, and moreover has a certain national importance as being the largest stuffed mammal in the English museums, I will begin my elephant hunting adventures with the first published account of how I obtained it, and the difficulties I had in getting the skin to England in one piece.

Early in the year 1905, through the auspices of Sir E. Ray Lankester, at that time director of the Natural History Museum, it was decided to add to the mammalian collection there an entire specimen of a male African elephant. Messrs. Rowland Ward and Co., of Piccadilly, the well-known taxidermists, were approached on the subject, and undertook to obtain one up to the required height of eleven feet. As the skin, fit to stuff, was required to be delivered in London in one piece, more than one African hunter refused such an arduous undertaking. Eventually, however, I, with many misgivings, accepted the contract and set about the preparations necessary for a prolonged expedition in search of the father-of-all-the-elephants.

Before I set out, I was well aware that the task of finding an elephant reaching to eleven feet at the shoulder was no easy one. For, in spite of the fact that on the border between



C. The West Nyasaland Elephant shot by the Author, and set up in the South Kensington Museum, with models of the longest tusks on record.



¶, A fine old bull Elephant, with massive head, shot in Northern Rhodesia, the entire skin of which the Author sent to England in one piece.

Nyasaland and Northern Rhodesia, where I was then, these animals reach an astonishing size compared to other parts of Africa, the usual height of old bulls is from ten feet four inches to ten feet nine inches. Elephants taping above the latter figure are exceedingly rare, and I may add, therefore, making it very difficult for me to believe the report of a twelve-foot elephant.

However, having undertaken the task, I set out from Fort Jameson in North-eastern Rhodesia with the usual followers, taking with me, besides my usual camp equipment, a quantity of butcher knives and emery stones to sharpen them, with four loads of salt, saltpetre and alum.

In the course of the first two months I had shot several large elephants both in Portuguese and Rhodesian territory, none of which, however, came up to the required standard. In consequence I began to feel a little disappointed, and decided to shift camp into the Bua Valley of western Nyasaland.

This I accordingly did and presently found myself encamped at a small village situated on the edge of one of those sloping flower-strewn meadows (or *dambo* in the native tongue) for which the district is remarkable, bordering a western tributary of the Bua River. It being August, the nights and mornings were extremely cold and, by the edge of the stream, where the elephants came to drink, positively freezing!

I was in the habit each morning of following down this stream in the hope of picking up over-night spoor and very early one morning was thus engaged, accompanied by a native tracker called Kamwendo. Now, this man had proved his worth on many previous occasions but had a failing, like so many good men, that he frequently became "bottled"

(or rather "jugged"—for he drank it by the jug-full) on native beer, and when in this state he was quite useless but polite—not quite accountable for his actions as you shall hear.

The sun was just tipping the horizon as we made our way along the open but misty *dambo* on this morning, examining as we went the different spoors leading to the valley bottom. Kamwendo, I noticed, had had a "thick" night, but his conscience pricking him, I suppose, was frightfully willing to do his best and therefore was some distance ahead looking for fresh indications of the quarry we sought. The mist was thick at the time but he was just discernible, when suddenly, down he went on hands and knees, and started to crawl away from me, looking intently meanwhile at something beyond him which, owing to the fog, was lost to my view. Kamwendo, of course, knew I was looking for an extra big elephant, but I was quite at a loss to know why he was down on all fours, in an open treeless *dambo* that would hardly hide a rabbit. I watched him for some seconds as he crawled on into the mist and guessing that anyhow something was up, I ran lightly to join him. Upon reaching the spot, the object he was stalking with such supreme care was at once apparent, for looming out of the mist, close ahead of us, was the form of a big tusker, spouting, as it seemed, a cloud of white smoke from his trunk and mouth, as he moved slowly along. This weird appearance was easily accounted for by the elephant's condensing breath on the chilly atmosphere. The sight, however, was one too much for poor Kamwendo. His fuddled brain, full of my instructions that he was to make sure before starting that any elephant we proposed to follow was a big one, combined with the effect of the aforementioned dragon-

like apparition, produced the result stated. His idea of walking on all fours towards an elephant, standing broadside in the open thirty or forty yards away, to have a look at his tusks, was a joke that fairly tickled me for many a day.

At the time, however, I was testing the wind, with all eyes on the elephant, who having previously taken his fill at the stream was by now engaged in pulling up with his trunk big wisps of grass on the edge of the *dambo*, and conveying them to his mouth after giving them a good banging against his forehead to shake off dirt from the roots.

I watched him for some seconds and although his tusks were not noticeably big he seemed to be a giant in size, so approaching with my double 8-bore to within twenty-five paces, I let fly at his left shoulder, first one barrel then the other. Recovering himself, however, with astonishing rapidity from such an onslaught, the elephant had soon reached the neighbouring forest and before I could fire a third shot was lost in the fog that still hung around us.

Kamwendo (who was now sobering up in the keen morning air) and I lost little time in getting after our quarry, and as the grass-fires had burnt the bush in patches, spooring was fairly easy, although at times, owing to cross-spoors and the dry state of the vegetation, my tracker was at fault, necessitating circling round to pick up the spoor again. We also found that in spite of the bad wounds he must have received, there was little blood on the trail after the first few miles.

Having been going since sunrise, the early part of the afternoon found us entering a thick patch of forest, whose cool shade after the baking heat without, invited a rest. Throwing myself down and having had a snack of food, I

was soon enjoying a comfortable siesta on Mother Earth. However, a long rest was not to be mine that day, for, during my " forty winks," Kamwendo aroused me with the thrilling words : " *Njovo ! Bwana !* " (Elephant ! master !)

To the ivory-hunter who has gotten, for better or worse, the fever of the chase, the word *Njovo* or *Tembo* uttered in the incisive accents of your black fellow-sportsman (for he *is* a sportsman, when all is said and done), is like the crack of a whip to a horse and is calculated to wake a man up every time. I was, therefore, up on the instant and listening for the breaking of branches that Kamwendo had heard.

Sure enough, coming nearer and nearer in our direction could be heard the swish of grass and leaves, that denotes the approach of elephants in the bush. The wind blowing steadily, on this occasion, in our direction, it was unnecessary to move from where we were ; we therefore stood silently expectant, as the animals came on. Presently we made them out through the screen of bushes. First an enormous elephant which I at once recognised as our friend of the morning, and who had evidently turned on his tracks after joining up with the small elephant that now followed in his rear.

The big fellow was moving slowly, and as he stopped under a big tree not twenty paces from me I distinctly made out the two dark streaks of dried blood, where my bullets had entered his left shoulder. As the elephant was now standing diagonally facing me there was no time to waste, so resting my small 8-mm. Mauser on a convenient tree, I took steady aim at his eye and fired. He dropped as if pole-axed and lay kicking on the ground, shot through the brain. On going forward to examine the great beast I knew, without the aid of a tape, that I had at last bagged the father-of-all-

the-elephants, for which I was searching. His tusks, although thick and cobby, were disappointing, being worn down to a weight of a little over forty pounds apiece.

Counting myself extremely lucky under the circumstances, I now made my way back to camp and pondering over the matter as I walked, it was borne in on me that the job of removing the hide of the dead elephant in one piece was going to tax the powers of my porters and myself to the utmost.

I reached camp towards sundown but it was not until the following morning that I again reached the carcass, accompanied by half the population of the countryside, whom I had engaged, on a promise of much meat, for the work in hand.

After pitching camp I made the discovery that the nearest water was some miles away, so I arranged with the local chief that every day, twenty-five women, each with a large earthenware pot, should keep the camp supplied with the vital fluid. Having arranged this I got some of my men to work on the skinning operations, whilst others were put to the task of clearing a space free from shade in which to erect a low drying frame for the hide, when the time came to spread it out to dry.

[I give here the note of the dimensions made from the skin at the British Museum:—

Height, 11 feet 4 inches.

Girth, 17 feet 4½ inches.

Overall length (taken from tip of trunk, along curve of back, to tip of tail), 30 feet.

Length from posterior alveolar border of tusk, along body to back of root of tail, 15 feet 10 inches.

Length of trunk, 8 feet.

Length of tail (to tips of hairs), 5 feet 6 inches.

Length of tail (without hairs), 4 feet 7½ inches.
Diameter of ear, 4 feet 8 inches.
Circumference of fore-foot, 4 feet 5 inches.
Diameter of hind-foot, 1 foot 8 inches.]

After this, the first incisions in the skin were commenced. Starting from below the tip of the trunk a cut was first carried through the centre of the lip, along the medial line of the belly to the end of the tail. Then, others at the back of each leg, joining up with it in the same way as any other animal is skinned. The flaps of skin beneath each leg and around the chest were then negotiated, leaving the muscles exposed, which in the case of the two uppermost legs, were removed, leaving the bones clear and ready to be severed at the joints. After the axe had done its work, I now had the two leg skins with feet attached thrown over the animal's back, and the remainder of the entire skin off one side soon followed. We were " hung up " a long time upon the skinning of the head which proved a very difficult task, the parts round the jaw and face proving the worst.*

By now, we were well on into the second day of our task with what appeared to be a sickly white monster lying before us, the stomach extended to a huge size with the ferment within. The exposed stomach, meat, leg bones and ribs had now to be removed, to enable the carcass (which weighed

* As most observant elephant-hunters know, the elephant has a gland on each temple which exudes a fatty oil through a small aperture in the skin. It is, however, not generally known that almost always, without exception, thin pieces of stick about one inch long are to be found embedded in these openings. How to account for the invariable presence of these pieces of stick in both glands remains a mystery, yet to be solved ; it is hard to believe that they come there by accident when the animal pushes through the branches of trees for instance. The natives will tell you that the elephant puts them there himself: perhaps they are right ! I have always found the pieces of stick to be of nearly equal length and size and never more than 1½ inches long.

some six tons and was impossible to move as it then lay) to be turned over. Into this job were put " all hands and the cook," and as, by then, I had a following of several hundred niggers all crying out for meat, there was such a scramble for the job that in less time than it takes to tell the carcass of the dead pachyderm was entirely blotted out from view behind a screen of wildly excited natives, brandishing dangerous-looking knives and axes in their endeavours to find a place to cut at. In the middle of this indescribable confusion there was an explosion resembling a big locomotive letting off steam, as the pent-up stomach gases escaped under the onslaught of spears and knives, sending a shower of the contents of the stomach mixed with blood over the perspiring humanity around. By sundown, with the assistance of " the crowd " I had the remainder of the carcass turned over and ready for the skinning of the other flank.

This proved to be fairly easy, so on the day following I had the satisfaction of seeing the complete skin being hauled and lifted on to the drying platform and work begun on the feet that still retained their flesh and bone, on the head that required attention, and on the curing process that consisted in rubbing in a mixture of three parts of salt, saltpetre and alum.

Under the hot sun the drying process went on apace, and in a week's time the skin had shrunk to half its size and was ready to be folded into a more or less rectangular package, ready for the cross-country journey to Fort Jameson and for which, in places, I had to form a special road. Forty of my best Angoni and Achewa carriers, in two relays, were detailed for this work. When it reached the township, the skin being dry enough for transport to the coast, I first took

the precaution to paint it with six gallons of crude castor oil to ward off the attacks of " beetle " and then sewed it up in its final covering.

This was by no means the last of it, however, for by this time the size and weight of skin had been exaggerated by the natives beyond all conception, with the result that the one transport company in the little centre of Fort Jameson, known as the African Lakes Corporation, refused to accept it for transportation, after offering it to several gangs of porters and after it had been adjudged by the authorities as too heavy for porterage. For some considerable time it lay in the roadway, near the township, a " white elephant " if ever there was one and a menace to traffic, until, through the assistance of my friend C., a man for whom the Achewa would do more than most, it eventually took its way to Tete on the Zambezi, a distance of 220 miles, in charge of a good headman and forty porters, accompanied by an extra gang of men who went in advance with axes to chop down the bush. For several weeks after this both C. and myself went in fear and trembling lest the headman should turn up with the news that the carriers had bolted. It safely reached the river, however, and after a time was shipped on a barge and so found its way to England, via Chinde on the east coast.

This is not quite all, for to get the mounted specimen through the portals of the South Kensington Museum necessitated an alteration in their structure. I can, therefore, well believe that my friend Mr. J. B. Burlace, the managing director for Messrs. Rowland Ward, Ltd., was as pleased to see the last of it as I was.

Knowing the difficulties before me, it stands to my credit that a year afterwards I took on another contract and landed

¶ The Skin of the Elephant, now in the British Museum (Natural History), drying in the sun. The Author's tracker, Kamwendo, is holding up its tail.

¶ An Elephant's Skin being transported to Fort Jameson en route for the Coast. The bush in the background is typical elephant country in Northern Rhodesia.

a similar specimen in London in good condition, the tusks of this elephant being much weightier than the first. Curiously enough the stomach of this animal contained several handfuls of large water-worn pebbles, some of them over one and a half inches in diameter and weighing together several pounds. As water was scarce in the district, it is to be presumed they were taken up in the beast's trunk in its endeavour to get a decent drink from some partially dried up water-hole.

To relate yet another adventure : there is in the Luangwa valley, known to sleeping-sickness doctors, journalists and others as the " Death Valley of Africa " by reason of the virulent type of sleeping-sickness carried by the *Glossina morsitans* or common tsetse fly, a narrow but deep, unnamed stream that some years ago nearly proved my grave, and all but sent me across that other dark water from which there is no return, and over which poor Lewis, the friend and companion then with me, had he but known it, was soon to pass.

In those days, with one drawback and another, we Northern Rhodesian elephant-hunting farmers were often hard put to it to make both ends meet, and in the intervals of losing our cattle with " fly " and our cotton crops with " boll-worm," indulged in the kingly sport of elephant hunting to replenish the famished exchequer : to the death be it said of some of us (although this fact was never taken into consideration by the British South African Company) from sleeping-sickness and others from the prod of an elephant's tusk. I am quite ready to admit we were a considerable source of annoyance to the administration, as we did not always come by our ivory lawfully (on both sides of the border) ; but at the same time some of us " paid the price " which went to even things up.

On the occasion of which I write, three of us, Lewis,

Gways and I, all pretty hard-up at the time, had joined forces for an ivory-hunting expedition to the Luangwa River, which drains a deep and narrow valley between the western Nyasa highlands on the one hand and the Tanganyika plateau and Muchinga escarpment on the other. From the commencement the trip was unsuccessful and Gways having lost himself for three whole days in the bush, becoming disgruntled in consequence, decided to go off on his own, leaving Lewis and myself together. Having previously bagged one or two small elephants, we presently found ourselves in a village on the banks of the river, and the gardens here were reported to us as having been destroyed by elephants. This we found to be true, so much so in fact that the natives were threatened by starvation in consequence.

The proverb, " it's an ill wind that blows nobody good," might well be applied here, for we were overjoyed at the prospect of getting on to some good bulls ; the morning therefore after our arrival found us taking opposite directions to pick up overnight spoor. Soon after leaving camp I came on fresh elephant tracks which I followed, and coming up with the animals quickly, wounded two bulls out of the troop of five. After emptying my magazine I raced after them, reloading as I went but to little purpose, as I arrived at the bank of the Luangwa River, which was then in flood, just in time to catch glimpses of the herd as it headed through the thick foliage on the opposite bank.

Where I now stood the Luangwa was quite one hundred yards broad besides being deep, with a swift current and impassable save with a canoe. There remained nothing for it but to send one of the men back to the village to bring round a dug-out, and to remain where I was with what

patience I could muster. Half an hour having gone by in this way, my friend Lewis turned up, and explained that, as he had returned to camp early and met my boy, who told him what had happened, he had followed me up, after ordering the canoe round. Soon after, the craft arrived, and we put across the river.

On reaching the far side, we discovered that the recent floods from the Muchinga mountains had inundated the Mopani* flats on this side of the valley, and the country as far as the eye could reach was ankle deep in water. This fact, together with the wounds two of the elephants had received, no doubt accounted for our reaching the troop soon after we left the river bank. We came up to them standing huddled together. The biggest, carrying a magnificent pair of tusks, being broadside on to us, at once received several bullets in the shoulder from both Lewis and myself, and then placing several other shots into the fast-retreating animals we tore after them through the water, the state of our waterlogged boots, however, soon bringing us to a standstill.

Taking a rest to talk over the situation, we decided that Lewis should return to the village, bring our camp-gear across the river, and that he should pitch the tents at the spot where we sat. I was to follow up the big bull, which, judging by its spoor had now left its companions, and evidently badly wounded, had gone off on its own.

* *Mopani*. The native name given to a handsome tree of erect growth, resembling the maiden-hair tree, with shiny leaves of a like shape to the fern of that name. This hard-wood tree is only found at low elevations and will only grow on waterlogged clay flats, where few other plants can survive the alternating baking by the sun and flooding by the rains. The seed exudes a resinous gum, smelling strongly of turpentine. The crushed leaves when steeped in boiling water form a reliable remedy for dysentery. The wood is white-ant proof.

So we parted, Lewis to recross the Luangwa River, I, with a rifle as my only companion, to spoor up the big tusker and see what had become of him.

The succession of miniature water-filled pits that marked my quarry's progress across the *veldt* were easy enough to follow and presently led me to a dark and muddy backwater, overhung with foliage, which being not more than fifteen yards wide the big bull had taken in his stride, so to speak.

To mere man, however, this deep waterway was an obstacle not so easily negotiated, so venturing down the bank with my cocked and loaded rifle resting on my shoulder, I drove my right leg deep into the mud on the water's edge, and with my left stretched out into the water, lowered myself down gradually to test the depth of the river—with a view to knowing if I could wade across or if I should have to swim it.

Not finding bottom I was about to raise myself again, when suddenly, without so much as a swirl of the oily water, I felt my leg in an awful grip from below, accompanied by a terrific wrench that all but turned me over head-first into the river. I just managed to save myself, however, owing to my right leg being firmly held, up to the knee, in the alluvial mud left by the subsiding water.

Realising on the instant that I was in the grip of a large crocodile, that terror of African waters, from whose jaws few men have ever escaped, I nerved myself for a supreme effort by clinging on for dear life to the roots about me as the croc. strained to pull me under.

Fortunately for me, to hold on to my rifle when having a fall had become a second nature; I therefore still had this in my grip and it lay, as far as I can remember, half

¶ An Elephant passing through the bamboos in Equatorial Africa.

¶ Enlargement from a cinematograph of an Elephant on the Semliki River.

¶ The Head and Tusks of a very large Elephant shot by the Author. The native is standing up. The tusks weighed about 95 lb. each.

(the barrel) in water and half in mud, so without aiming I simply pressed the trigger. In the back of my mind I was not sure whether the rifle was " at safety " or not, so it can be imagined with what thrilling joy the muffled report came to me from below water and I realised that my foe had, at last, let go his hold.

I now stumbled back on to the mud, and lifting my rifle I jammed cartridge after cartridge into the breach, letting rip into the water about me. Anywhere—everywhere—so long as I warded off a second attack from the loathsome reptile.

After this I scrambled on all fours up the bank, and unrolling one puttee examined my wounds, which consisted, apart from minor abrasions, of four deep holes in my leg, the edges of two of them being badly torn. I lay here for some little time nursing my painful member, the wounds of which had completely incapacitated me from walking, and wondering if my friend Lewis could have heard the shots and so come to my assistance. To make sure I picked up my rifle and fired a second volley.

Lewis, as he afterwards told me, heard both fusillades, and thinking to himself, " By jove, Barns has got the big bull," hurried along the carriers and presently found me *hors de combat* as I have described.

Fearing blood-poisoning after such a dangerous bite and our other medicines having been left in the village, we hit upon the expedient of rubbing salt into the wounds. This proved to be nearly as painful as the nitrate of silver pencil used by the doctor on my arrival in Fort Jameson, which place I reached in a *machilla* (a hammock slung on a pole) a week later.

Although all the sympathy I got from my friends was: "Well, Barns, I don't think much of that darned old croc., if he selected your leg for a feed!" (referring to my sinewy member)—the experience is one that few of them would like to go through themselves and they little know that the mere thought of the encounter had the power, for many months afterwards, to bring a chill of fear to my heart and at times would make me start up in the night from my sleep, with a cold sweat upon me, having dreamt of the living tomb that was so nearly mine.

As a tribute to Krupp steel (if that were needed), I might say that the barrel of the German 8-mm. Mauser rifle, that saved my life and which I had fired under water, on examination showed only a small bulge in the barrel and two weals in the rifling, to account for its unwonted treatment. But it would only shoot straight at a hundred yards when the back sight was put up to 350.

Lewis, who stayed behind in the Luangwa River whilst I was recovering from the croc. bite, found one of the elephants we had wounded but never got the big one. My comrade, to my great regret, not long afterwards contracted sleeping-sickness on another elephant shoot, from which he succumbed on his way to England.

To close this chapter I will give an account of what was under the circumstances the most strenuous day's elephant hunting that I can remember, and which has been brought vividly back to my mind by an account I read lately, of the old Dutch elephant hunters driving a big herd of elephant into a bog where they slaughtered them indiscriminately.

At the commencement of the Great War my wife and myself

were the very first to leave Fort Jameson for the German border between Lakes Tanganyika and Nyassa, where we arrived before the troops. During the greater part of the German East African campaign I was engaged in supplying, at that time, the only available meat ration for the native troops and military porters, in the form of many tons of biltong (dried meat of wild game) and under this category came the meat of elephants.

The rainy season having been the heaviest ever experienced in that part of Africa, the Chambezi River which drains the Tanganyika plateau had overflowed its banks and flooded the country far and wide. The flats on either side of the lower part of the river especially had been inundated by the flood, the water standing many feet deep in all directions, across miles of open *veldt*.

As elephants were reported to be destroying the native crops at a village called Msumpi's on the far side of the flooded area, into this watery wilderness in search of them came my wife and I. Not only was the bush knee-deep in water, but it rained " cats and dogs " most of the time, so it can well be imagined that after crossing the overcharged Chambezi River in dug-out canoes and wading yet another thirty miles beyond, we were thankful to reach the comparatively dry village and to know that we had not been misinformed regarding the elephants. Our arrival was hailed with delight by the Awemba chief, as the big herd that had located itself in the vicinity of his village, to escape the surrounding flood, was gradually eating up the year's food supply of himself and his men.

After a day's rest to dry my belongings I took up the spoor of three elephants that had fed in the gardens over

night, two of whom, judging by the size of their footprints, being old bulls. In this portion of Central Africa the experienced hunter can usually tell by the depth and size of the spoors, also by the impressions made by the corrugations at the bottom of the hoof, if he is following an old bull or not. With a few exceptions a " heavy " spoor means heavy ivory. This does not apply, however, in Equatorial Africa, where elephants grow immense tusks but may have small spoors. Those elephants to be found in Northern Rhodesia are much finer animals, however, than any others I have seen, though with light ivory, compensated to some extent by being of extra fine quality.

The high land on which Msumpi's village was situated and across which the tracks now took me was of small extent, and whichever way one turned, led into flooded areas for the most part knee-deep in water, so I was not long in coming up with the herd, which the three bulls had soon joined after their night raid on the gardens. This large troop was scattered about in all directions, feeding in the thick scrub, but the bulls were nowhere to be seen. Selecting a big cow with fine long ivories, I brought her down without much difficulty by placing several shots in her shoulder.

The whole herd, now thoroughly alarmed by the firing, crashed off, and finding the narrowed space of high ground too confined for their fears, took *en masse* to the water beyond. Knowing that there were several bulls amongst them, I and my two trackers followed.

Anyone who has walked in water with their boots on, even for a few hundred yards, will realise how fatiguing and what slow progress is possible in such a country. It was therefore well on towards evening before we came up with

the tail end of the herd, consisting of one or two stragglers, with small tusks, who were in difficulties with the mud. The main herd was some distance in advance of these, and from this direction, shortly afterwards, came the most indescribable hubbub it is possible to imagine.

Although invisible, the soft nature of the ground on which we were treading soon became apparent to my two followers and myself by the fact of our falling into deep holes made by the feet of the passing elephants in the increasingly soft mud. From this it soon became obvious we had followed the elephants into a hidden morass.

Realising now the cause of the uproar which still continued on ahead, and that I had before me the chance of an elephant hunter's life-time, I left my natives behind and, filling my pockets with cartridges, I made a detour to avoid the rearmost elephants and the pit-holes, putting forth all my energy into reaching the spot from whence the commotion proceeded.

A few hundred yards brought me out into an open expanse of low bush, and there, splashing, pushing and anon trumpeting, struggled a heaving herd of some seventy elephants, all with few exceptions completely bogged and entirely at my mercy! A fortune in ivory to a poor hunter!

As I stood there in the deep water, too excited to feel tired, wet, or cold, and knowing that by my own endeavour I had hunted down the great animals before me, I was sorely tempted, like the old Dutch hunters, to grasp my opportunity —shoot the lot and be damned to the consequences! Temptation (a curious form of it some people will think) in its specious way whispered, " There are uncountable thousands of elephants in Africa. Why worry about those few? They

eat up the natives' gardens so that the natives starve; they help to breed and feed tsetse fly, from the bite of which your cattle have died; they are utterly useless animals and retard the advance of civilisation!"

These things occurred to me like a flash, but Moderation and the *Ring-fence* won; besides, the job was a big undertaking for one man. I set myself therefore the task of slaying those bulls carrying the best ivory, of which there were three. The biggest of these was at that moment heaving himself free from the grip of the bog beneath on to a group of low ant-hills forming an island, and directly facing me, at a distance of some twenty-five yards. A younger bull, not handicapped with so much weight but having a fine long pair of tusks, had already reached this spot and, apparently undecided what to do next, stood watching the mass of his female companions and calves in their endeavour to clear the marsh. Yet a third tusker, having pushed his weaker brethren aside, was slowly but surely ploughing through the foaming mud and water to the haven already reached by his companions, followed by a line of half-submerged females and young.

The psychological moment to open fire had now arrived, so raising my magazine rifle I fired at the shoulder of the biggest bull, following this up with several other bullets in quick succession. The excitement and noise at this juncture was something to remember! At my third or fourth shot the wounded bull let forth a resounding trumpet and, turning in my direction, charged out at me, in spite of the bullet I planted in his face. Seeing me, however, standing in the water and knowing the ground would not hold him, he slewed round, offering his shoulder for another bullet as he

did so. Reloading my magazine, I fired at the second and third bull, and eventually the three of them, being unable to escape, fell to my rifle. By this time the remainder of the plunging herd, being bogged deeper than ever, were bunched up in groups, and there I left them. When we turned up in the morning to cut up the three elephants the others had gone, having managed to pull themselves out of the marsh in the night.

By reason of its unwonted setting this episode remains in my mind as one of the most exciting I can remember. Many others occur to me as I sit writing, but which will have to wait for some other occasion—some sad, some cruel, some laughable, others again so exciting that they still have the power to thrill; days when the water was all finished and such a terrible thirst assailed one that one was glad to cut open the water-stomach of an elephant and take a drink or make tea with the insipid fluid; days again when one was drenched through to the skin and the wood being wet, one had to sleep as best one could in damp clothes; dull days of fever; delicious days of splendid health; in other words, the storm and sunshine of a hunter's life.

CHAPTER XVI

AFRICAN ENTOMOLOGY

Mr. G. Talbot, F.E.S., Curator of The Hill Museum of Lepidoptera, Witley, Surrey, has very kindly assisted me in the composition of this chapter, also in the arranging of the plates, and my thanks are also due to him for participating in revising the manuscript of this book.

THEY say that the first collector of butterflies and moths was a woman and that the " poor deluded creature," being thought insane, was therefore clapped into a mad-house by her relatives. This story rather appeals to me and is no doubt perfectly true, for even in these modern days an entomologist when outside his laboratory and chasing an insect across a field is dubbed as a " little bit touched, you know—poor chap ! " or " has a screw loose somewhere, rather sad in one so young ! "

In the course of my search for insects in Africa I have had some curious and often dangerous—too dangerous—experiences. In the first place, I have always been looked on as mad, and in some cases whole villages have fled at my approach, whilst in others the natives have come up to " boo " at the " mad Bwana " out collecting, to see what the effect was, afterwards running away. By the medicine men and native sorcerers, however, I was always treated with the greatest respect and regarded by them as a fellow-member of their great brotherhood of bluff. In a fishing country I have been taken as a fisherman out to net fish with my bottles of bait, and elsewhere as a bird-catcher.

Hunting insects, like hunting animals, takes the collector far afield, and I have on many occasions been confronted

with elephants, buffaloes, lions, leopards, and snakes which I have run into, having nothing more lethal in my hand than a net. Sleeping sickness is an ever-present danger to the entomologist, for rare insects are to be found in the swamps and forests inhabited by both the *morsitans* and *palpalis* tsetse fly, which have caused the death of more than one entomologist in recent years. One notable case especially occurs to me, that of the death of Mr. Dollman* and his wife from sleeping sickness in Northern Rhodesia.

The entomologist-collector is a *rara avis* and is born, not made; he has to be somewhat of an anachronism—a kind of Admirable Crichton and war correspondent rolled into one—for to be considered an expert foreign and tropical collector he has to have the following qualities: a knowledge of all branches of natural history and woodcraft and a good bump of locality; he must have a good memory, endurance, and patience, be fearless, resolute and painstaking, and hard-fisted as well as light-handed as circumstances may demand; also he must be a good linguist and draughtsman.

The paraphernalia of an entomologist in the tropics consists of dozens of cyanide of potassium killing bottles, variously shaped nets and collecting boxes, many forceps and pins, powerful gasoline lamps for moths at night, as well as mixtures of treacle, beer, dried fruit, oil of aniseed, and amyl acetate to attract them. Thousands of envelopes are required and special boxes for posting home the captures, which are not "set" until they reach their destination,

* Mr. Dollman was a very painstaking entomologist, who, besides achieving valuable results from his breeding experiments, amassed a very fine collection of lepidoptera which he generously bequeathed to the British Museum. Mr. N. B. Riley, of the Museum staff, has lately published descriptions of new species from Mr. Dollman's collection, but a fine set of paintings illustrating the life-history of many species still awaits publication.—G. T.

when they are "relaxed" for the purpose. Napthaline is used as an insecticide against destructive mites, and a solution of formalin is used for preserving larvæ.

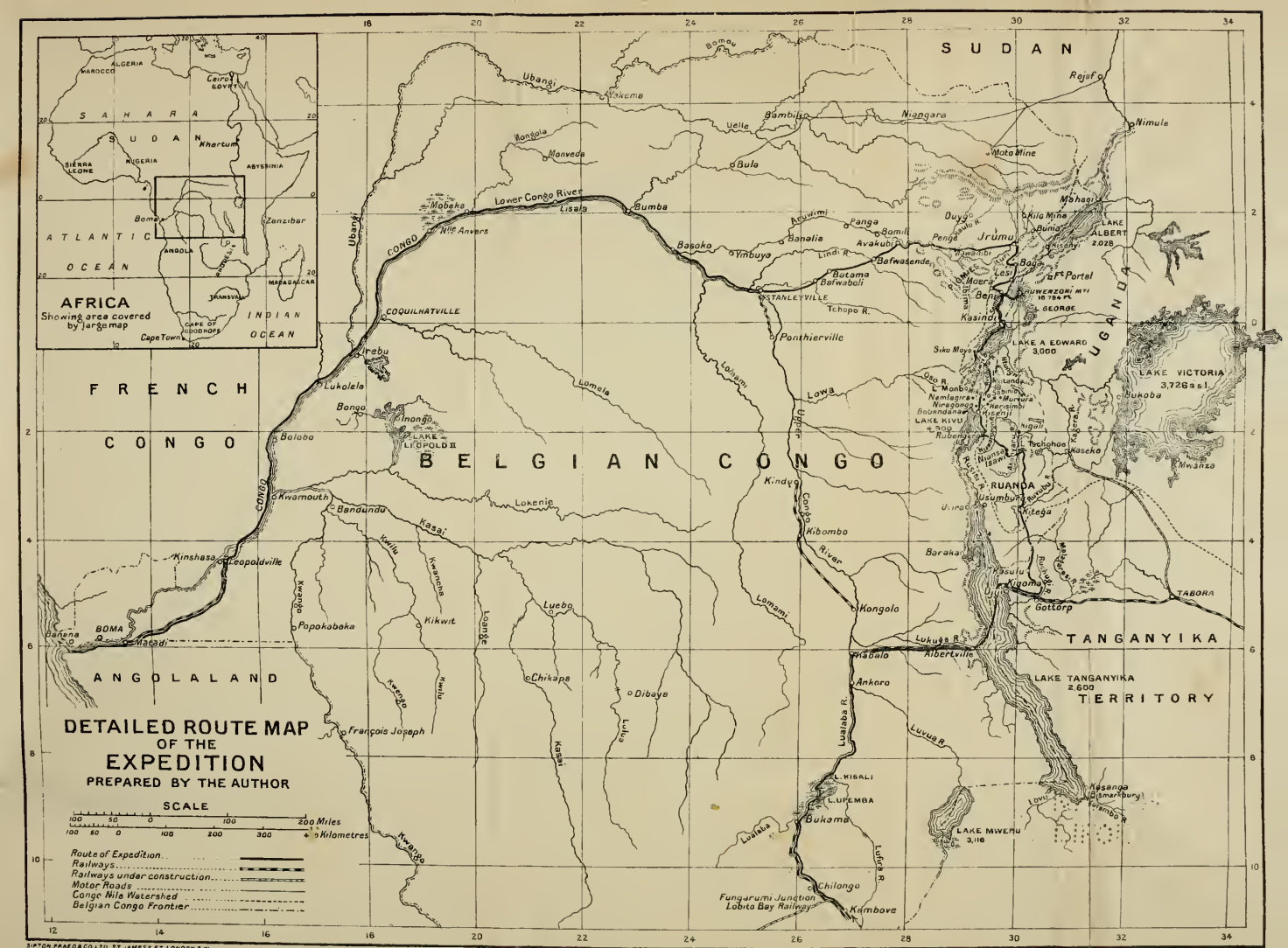
The following entomological field notes required from a collector concerning his captures will give the reader some idea of the work entailed :—

Entomological Data Required from a Collector.

1. Locality.
   - (*a*) If name is not on map give approximate position in relation to a place which is on the map. Latitude and longitude is always desirable.
   - (*b*) Write a short account of geographical features. This will include the general configuration, the presence of water, and distance from the sea in the case of islands.
   - (*c*) Nature of the flora, noting special types.
   - (*d*) Vertebrate fauna ; abundance or not of birds, reptiles, mammals.
   - (*e*) If a mountain, indicate what side.
   - (*f*) If a river, indicate which bank.
   - (*g*) Height above sea-level.

2. Climate.
   - (*a*) General remarks.
   - (*b*) Rainfall and humidity.
   - (*c*) Temperatures taken at coolest period, medium period and hottest time of day.
   - (*d*) Kind of season : wet, dry, or both.
   - (*e*) Prevailing winds.

3. Time.
   (*a*) Month when taken.
   (*b*) Taken in a.m., p.m., or at dusk or attracted to light at night.
4. Habits of Adults.
   (*a*) Usual feeding haunts.
   (*b*) What species fly together.
   (*c*) When several forms are feeding or are at rest in one assemblage, try and net all by waiting for those that are disturbed to come back. Keep such lots separate.
   (*d*) Note any protection afforded by coloration, etc., when at rest.
   (*e*) Note whether conspicuous on the wing and if can be mistaken for another species.
   (*f*) Note any bird or animal seen catching butterflies, and what species of butterfly. Very important.
   (*g*) When skinning any birds, note if any remains of lepidoptera are in the crop.
   (*h*) Resting attitude.
   (*i*) Do the sexes fly together and have they similar habits? Do the males "assemble" to the females?
5. Habits of Larvæ.
   (*a*) Endeavour to rear larvæ.
   (*b*) When adult is known, preserve the larva, both by fixation and by formalin.
   (*c*) Note coloration when alive.
   (*d*) Note time when feeding.
   (*e*) Note if conspicuous or protected.
   (*f*) Preserve portion of food-plant, and include flower where possible.



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butterfly or moth from an egg through its larval and pupal stages to the mature insect without acknowledging that inquiry into such a marvellous evolution may not one day lead to astonishing results.

There are lines of research open to the lepidopterist as engrossing and no less important than those of the chemist, for instance, amongst which may be mentioned inheritance, variation, phylogeny, the evolution of wing pattern, data bearing on the general question of the origin of species, and the interpretation of the phenomena presented by mimetic resemblance and geographical distribution.

A Remarkable Butterfly.

As far as is certainly known at present, the *Ornithoptera* group of Papilios is unrepresented in Africa, but from reports that reach England from time to time it is thought that this group may be represented or that a third species of giant Papilios exists, similar to the *antimachus* and *zalmoxis*, or even perhaps a hybrid between these two. There is, for instance, an authenticated report of such an insect having been seen in Liberia which rather bears out my own experience when crossing the higher Lindi River in the Stanleyville district of the Belgian Congo. I was on my way to Stanleyville from a place named Irumu, near Lake Albert, and having arrived at the Lindi River, which at this point is a good two hundred yards wide, I was crossing it in a canoe when from the opposite bank came flying towards me a large insect of the *antimachus* type but of heavier build and flight. It circled over the water and round and above the canoe, where I got a good look at it. The hind wings appeared to me to be a rich brown, spotted and barred with black at the edges, the

fore wings having each a broad transverse bar across them of a vivid blue-green on a ground colour of black. The insect eventually flew away over the trees, and although I waited there for the rest of the day it never returned. Some five or six miles farther on, and in the forest, I thought I saw a similar insect, but I could not be sure that this was not a *zalmoxis*.

I put down this record for what it is worth, as the insect may subsequently be captured by some lucky individual. I have of course been asked why I did not stay a week or a month on the spot and attempt to capture so great a prize ; the answer is that at that time (not long after the signing of the Treaty of Peace) passages to England were exceedingly difficult to obtain, and having booked and paid for two berths (for myself and my wife) on a homeward bound steamer six months in advance, I was unable to give the time necessary for the purpose without losing our passages. As a matter of fact, I reached my port of embarkation with only two days to spare.

Enemies of Butterflies.

From close observation made in the course of my travels through Central Africa, which have been spread over a period of twenty-five years, I am of the opinion that African birds are not partial to butterflies as food. Always excepting the African pied wagtail. The number of times I have seen birds attempting to catch butterflies can be counted on the fingers of one hand, and only once have I seen a bird actually with one in its beak.

The pied wagtail, which is found in great numbers throughout Africa, is a notable exception to this, and in

places where butterflies are common these insects become their main food supply. These birds are a source of considerable annoyance to the collector, as a male and female bird will often take up a position at a mud-hole or other place frequented by scarce species, where they continue to disturb and eat the butterflies, often under one's very nose. They seem to have a partiality for Papilios and Pierids, but apparently leave most red and red-brown butterflies alone when there are others. These birds know the Acræids quite well, and even amongst a collection of red and red-brown butterflies will always select for instance a *Lachnoptera iole* or *columbina* and leave the Acræids untouched.

I have seen these wagtails eat various species of *Papilio*, *Charaxes*, *Euphædra*, *Diestogyna*, *Pierids*, *Lachnoptera*, *Lycænids*, *Hesperids*, and *Nymphalids*.

In the crops of many wild birds which have come under my notice I have never seen a part of any butterfly, but pupæ (and of course larvæ) frequently. The contents of the crop of one guinea-fowl that I shot contained thirty-four pupæ of one species of large moth.

Next to the pied wagtail in point of destructiveness to butterflies come frogs and the smaller lizards, which catch and eat a great number, principally in places where the butterflies come to drink and feed. Both lizards and frogs seem partial to Lycænids and Pierids. They also leave the Acræids and red and red-brown butterflies severely alone.

After the lizards may be mentioned the large stink ants (*Paltothyreus*) which, with the larger dragon-flies are, as far as my observation goes, the only African insects that will directly catch a live butterfly with their mandibles. I have watched stink ants at different times in twos or threes

creep up to a collection of Pierids feeding, each catch a large Pierid (to which they seem partial) in their strong hooked mandibles, kill them and carry them off to their nest. It often happens that the ant does not get a vital grip of its prey ; there is then a tussle—strength of wing versus weight. The butterfly will frequently carry the ant a considerable distance, although the ant is usually the victor, as he never lets go his grip. The feeding places of the Pierids are often littered with wings and parts of wings, where these ants have made a habit of coming daily to catch their food. On two occasions I have observed these ants catch Acræids and take them away to their nests.

In the plant world the large African sun-dew attracts Lycænids and Pierids. The dead and dying insects may be seen caught in its wonderful fly-traps ; again others may be seen fluttering around entangled in its sticky exudation.

So much for the enemies of the mature butterfly ; but the moths have more to contend with, for apart from night birds—the night-jars, owls, swifts, etc.—the small rodents, lemurs and bats catch and eat all they can see ; the latter are especially numerous in Africa and adepts at catching all kinds of insects on the wing. Then again at night come out that terrible band of nocturnal insects, added to which are large numbers of voracious spiders, all on the look-out for the half-awakened moth just out of its chrysalis.

Regarding the feeding and flying together of various species of butterflies, I have made many notes, but as a matter of fact at one time or another both in the forest and steppe regions (with a few exceptions, such as *Euxanthe* or *Mycalesis*), members of almost every species can be seen flying, feeding, or drinking together at one time or another.

¶ *Belenois* in the grip of the insectivorous large African Sun-dew, to be found in the Swamps at high elevations on the Nyassa-Tanganyika Plateau

¶, *Belenois* Feeding on urine cast.

Thus it will be seen that observations under this head are of little significance .[*In the case of mimetic forms the observations are important.*—G. T.]

There appears to be an interesting line of research amongst the parasitic larvæ of small moths to be found on other insects, such as *Epipyrops fulvipuncta* Dist., a Limacodid moth whose larva lives in the nest of a Homopterous insect and feeds on its nymphs, also in the fact of larvæ of certain Lepidoptera being found inhabiting some ants' nests, where they appear to be fed and attended to by these wonderful insects. There are also in Africa a number of species of social moths of the *Anaphe* group which form " nests " of cocoons from which a fine quality of silk can be spun, and with which the Germans experimented successfully in the weaving of silk. Then again there is much work to be done in the breeding of such species as the *Euphædra, Euryphene, Euryphura, Diestogyna* and *Cymothœ* to determine the relationships of the many varied forms they present.

The life-history of the greater part of African Lepidoptera is entirely unknown, and much work remains to be done. A thorough investigation into the life-history of the smaller moths would be of great utility, as many of these insects become serious pests to the planters or plants.

Such lines of research are only possible to entomologists with time and the necessary equipment at their disposal, and who have permanent bases in Africa, such as Government entomologists, to whom I would commend these notes.

CHAPTER XVII

CINEMATOGRAPHY AND PHOTOGRAPHY

THE equipment of an explorer and collector in these days cannot be considered complete without a cinematograph outfit as well as one for still photography. I therefore decided some years ago to take up this new art, to record and to reveal to others some of the secrets that wild and savage Nature hides so securely from all save those who seek her treasures in remote corners of the world. As I was a novice with a " movie " camera it may be of interest to some to know how I fared.

Let me say at once that as a money-making scheme I found the taking of moving pictures of wild life a failure. Possibly on account of the cinematograph trade being proverbially a " close " one and held by a ring of Jews, or maybe because the market is flooded with such pictures, or because of the lack of business training in myself, or the somewhat depraved public taste in pictures ; in any case, whatever the cause, I have never received one penny in return for several hundred pounds spent on the work. I have received offers for some of my films, but of such a nature that, as I told one Hebrew, I would sooner burn the lot than dispose of any at such a price.

Wild life subjects have an immense appeal to the travelled and scientific classes, but their numbers are comparatively few, therefore it is that the taking of Nature pictures in savage lands is unlikely to become anything more, at present, than an expensive hobby for the amateur.

Cinematography

Throughout the expedition that this book describes I carried a Gillon camera with me, one of the older models and much too heavy for my purpose; but it had this advantage, however, that it was exceedingly strong. I had with it a Zeiss-Tessar 3.4-inch lens and a Ross "Xpres" 6-inch lens. The negative stock I had posted out to me in small lots, direct from the makers, to ensure its freshness, and after exposure it was repacked and posted home on the first opportunity for development. I also made a practice of developing short slips cut off the ends of the rolls, to see if everything was going on all right, and if my exposures were correct. Invariably I used the Watkins' kinematograph exposure meter, with pendulum for timing exposures, and found it invaluable.

At first I experienced some difficulty in turning the handle of the camera at a uniform rate of speed, but after a little practice this is easy. A good method for the novice is to count out loud—one hundred and one—one hundred and two, and so on, as the handle is turned; these numbers counted out in the ordinary way of speaking give the desired speed of two turns or sixteen pictures to the second. A new hand is apt to turn the handle too fast.

I found it of the utmost importance to keep the rather complicated machinery of the camera well oiled and clean. The "gate" through which the film passes to be exposed is another thing that needs constant attention to keep it free from grit and other foreign matter that would scratch the film. After exposing each roll I used to rub this well with a lightly vaselined wash-leather, and then again with a second dry piece kept for the purpose.

The price I paid for Eastmans' perforated negative stock

was 2*d.* per foot, for developing it 1*d.* per foot, and for printing 3½*d.* per foot. Added to this was the import duty into England of 5*d.* per foot on exposed and undeveloped film, bringing the actual cost per foot of the finished pictures up to 11½*d.*, without taking into consideration the cost of obtaining the films, postage, wear and tear of camera, and losses through damaged and perished film.

Loss through the latter cause was often a considerable item. I well remember receiving a consignment of two thousand feet of negative stock from a Birmingham firm which reached me in Africa. It looked well enough when I inspected it with the aid of a small travelling dark lamp, and having none other at the time, I loaded my camera with several rolls, setting forth to hunt up a herd of elephants that I knew were in the vicinity of my camp. As luck would have it, in the course of the day I found a number of these animals bogged in a marsh and offering a wonderful chance for filming them, which I set about doing without loss of time. My chagrin can be better imagined than described when I came to develop pieces of these films, which I thought would be absolutely unique, and found that the stock was quite hopelessly perished—all of it—not one single foot was of any use! The worst part of such a catastrophe in the African wilds is the fact that the camera-man is quite helpless on such occasions, for fresh supplies of any kind cannot reach him from England under many months.

As I passed through late German East Africa shortly after the war there was no parcel post organised, resulting in a considerable delay in sending my films home for development. On this account, and owing to other delays at home, some of them remained undeveloped for nine months, without

however affecting them very adversely.* Some of my best animal films I obtained in the wonderful game country of Lake Edward. On the Semliki River I found the elephant so tame that it was possible to get pictures of them at very close quarters; the grass being short, conditions were ideal there.

My method of approaching dangerous game to film them was with the camera and tripod ready fixed, mounted on my shoulder. Having previously tested the light with the meter and stopped the lens, it was only necessary to focus it. Taking advantage of all cover, I went forward in short runs, followed by one native with my rifle, and on getting as close as possible I set down the camera and tripod and started the handle, after adjusting the view-finder and focusing if necessary. It is usual for the animal cinematographer to have lenses up to twelve-inch focus and even over, but I am not in favour of them as being unwieldy, hard of focus, and giving a shaky image; I rather prefer to have a lens of medium focus and get nearer the object. On the plains of Lake Edward I have approached to within twenty-five paces of elephants, buffaloes, and hippo'. As is usual where quickness is essential, I had my lens mount marked for various distances, so that it was only necessary to set the lens on the mark without looking through the focusing tube.

Originality is the high-road to success, and no less so with wild life cinematography than with any other branch of art. In my efforts I climbed equatorial Alps, peered into active craters, crawled after elephants, buffaloes,

* A good plan to ensure exposed negative stock reaching its destination in good condition is to take plenty of fine adhesive tape and to wind it round the sides of the tins, afterwards wrapping them in several coverings of special absorbent paper, which should be gummed down.

lions, and all kinds of game, and—sometimes with a patience that astonished myself—waited for the psychological moment when certain butterflies were grouping themselves to the best advantage.

My most successful pictures, and those that attracted most attention when I lectured with them, were a solitary old bull buffalo, elephants on the Semliki River, a herd of hippo racing through the water, the eruptive shaft of the Niragongo volcano, alpine vegetation on the Ruwenzori mountains, and the snow-capped Stanley peak, the Ituri River scenery, the Watusi dances, the pygmies and insects.

I had the finest opportunity to film a troop of gorillas that ever fell to the lot of man, but it is impossible to shoot animals and film them at the same time—it must be either the one or the other; both cannot be undertaken together successfully. On this occasion I decided that a bird in the hand was worth two on the film, so used my rifle in the place of the camera.

With regard to ordinary still photography, I have tried all sorts of cameras and am never without one. I consider the pre-war lenses and cameras far superior and more likely to give lasting satisfaction than those made to-day. There is no comparison between the workmanship and finish of a 1914 camera and one made in 1920; the former is a far better article. For this reason I would advise an intending purchaser to go to a good firm dealing in second-hand cameras and selecting one of the pre-war makes with a pre-war lens, having the latter repolished if need be. An all-round lens that has given me the utmost satisfaction for the past fifteen years, and is still as good as ever, is a Beck-Steinheil Orthostigmat.

To meet all requirements of a long expedition I think

four cameras are necessary, viz., a quarter-plate combined hand and stand camera and a quarter-plate reflex fitted with a full range of lenses, interchangeable for either camera. Thirdly, a Panoram Kodak for survey work, and lastly, a vest-pocket camera.

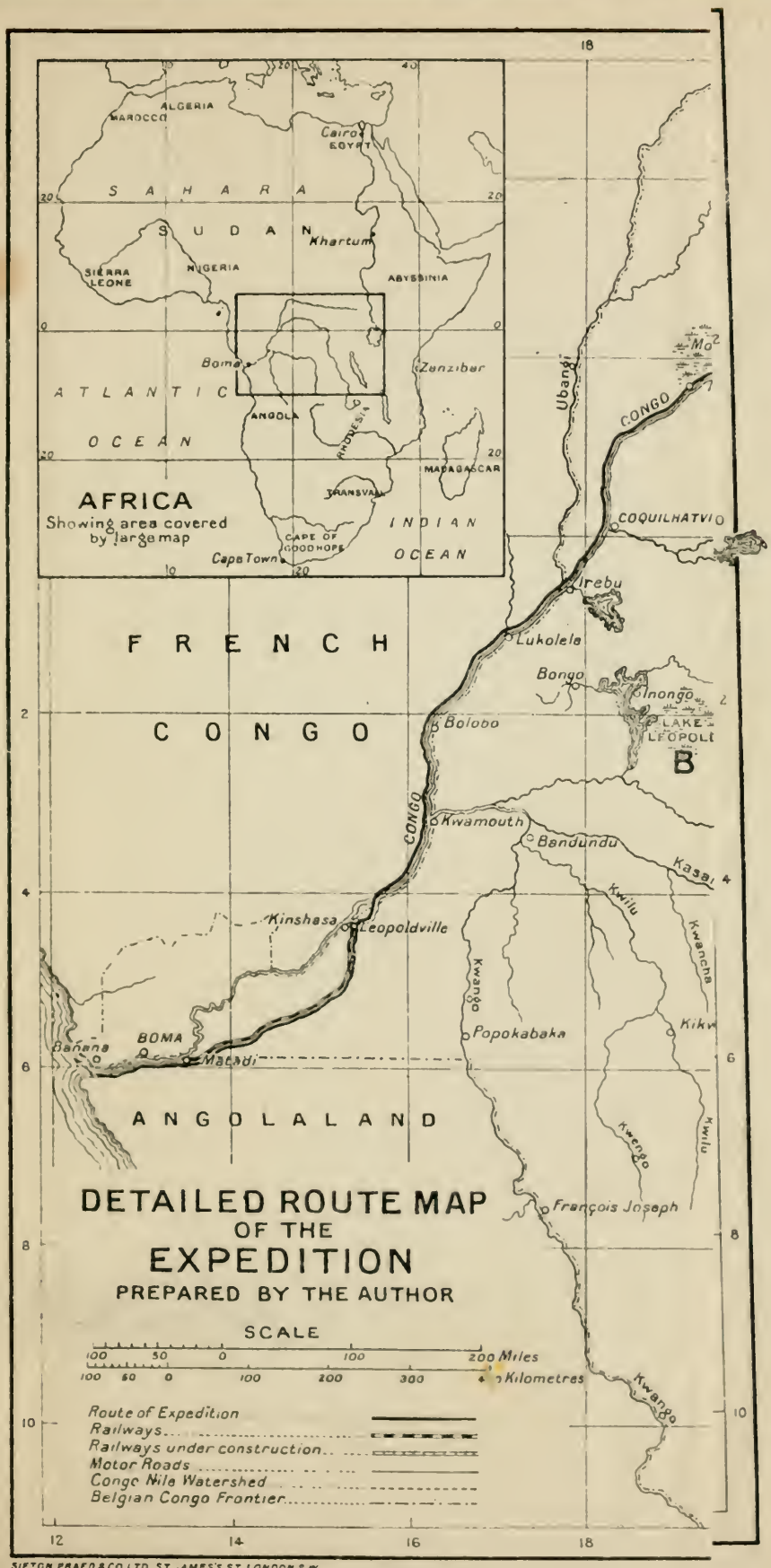
Roll films are anathema to me. I always take glass plates as giving far and away the best results, as much in point of their keeping qualities as in the resulting negative, although stiff films and film packs are both serviceable and reliable. As a quarter-plate negative will enlarge well up to almost any size, a larger camera than this is unnecessary when weight and general handiness are to be considered.

Needless to say, I have always undertaken my own developing, and have found a lightly coloured solution of permanganate of potash a useful hypo eliminator in hot climates, where softening of the emulsion is inevitable.

I think the making of a successful photograph lies in knowing and selecting the most suitable place from where to take it; this should never be done haphazard if a pleasing result is desired. Another thing worth remembering is, take the photograph on the slowest plate that the subject and light will allow. A camera should be loaded with both fast and slow plates—the continuous use of fast plates of the same speed is by no means desirable or necessary.

Reverting again to cinematography, it may save the unwary amateur from a pitfall if I record the fact that there is a law passed in England which disallows the importation of cinematograph films as traveller's baggage. I know this, as I once arrived at Plymouth with some two thousand feet of exposed film in one of my trunks, which I duly declared on arrival and handed over to the customs authorities for

forwarding to the Bonded Film Warehouse at Endell Street. When I received the account for the importation duty of fivepence per foot I was astonished to find there was an additional twelve pounds added on as a fine for having done this. After some difficulty I managed to get this fine remitted to one of twenty shillings, with a caution and a note to the effect that pleading ignorance of the law was no defence.



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Appendix

Appendix

Mr. Barns' Collections and Aspects of Butterfly Life in Africa.

By G. Talbot, F.E.S.

The country traversed by Mr. and Mrs. Barns was calculated to yield some novelties in butterflies and moths. The Katanga district of the Belgian Congo, the region around Lake Kivu, and the Ituri Forest, have not received so much attention from the entomologist as the better-known regions of the west, the south, East Africa and Uganda. The dense forest region of the Congo hinterland still holds many surprises for the butterfly and moth collector. The existence of an unknown species of giant Papilio, already referred to by Mr. Barns, must be considered as one of the most wonderful butterfly discoveries of recent years. Mr. Barns is once again in Africa in quest of this rare insect, but at the time of writing no specimens have been seen. Confirmation of the existence of this butterfly has been supplied by my friend Monsieur F. le Cerf of the Paris Museum.

A certain Sergeant Monceaux (now Captain), when employed on the Franco-Liberian Boundary Commission for the delimitation of the frontier between Liberia and French Guinea, made a collection of over 4,000 Lepidoptera which he brought to the Paris Museum. He stated as having seen in the region of the Upper Sasandra River a large butterfly drinking at a pool of water on the road. It closed and opened its wings alternately, and the observer was able to get fairly close to it before it flew away. The sergeant stated that the wings of this butterfly were very long and for the greater part of a brilliant blue colour.

Monsieur le Cerf showed Sergeant Monceaux several species in the museum including *P. zalmoxis*, but he recognised none of them as being the insect he had seen. The sergeant pulled out some other drawers and seeing *P. antimachus*, exclaimed: "*C'est comme cette espèce là, mais avec beaucoup de bleu brillant et encore plus grand.*" (It is like that species there, but with a lot of bright blue and still larger.)

This butterfly has been observed also on two occasions in Nigeria.

The total number of specimens collected by Mr. and Mrs. Barns was 4,300. These comprise over 760 distinct forms of butterflies, and considerably more than 250 species of moths. Most of these have been worked out, and we have described as new to science, 78 forms of butterflies and 57 moths, with one moth forming the type

of a new genus Descriptions of these and figures of most of them are given in "The Bulletin of the Hill Museum," Part I, 1921.

The collection is the finest that has been made in the Kivu region and in the Ituri Forest, and is remarkable for the great number of species and new forms. The majority of the specimens were in fine condition and accompanied by a precise statement of the date and locality. In many cases Mr. Barns was able to add some notes on the habits of the insects.

The collection adds much to our knowledge of the distribution of many forms. Most African species range over the whole continent south of the Sahara, and the occurrence of species hitherto known only from South Africa, as far north as the Semliki Valley, is a further illustration of the wide range of African butterflies. It is interesting to note that these Semliki and Lake Edward specimens exhibit no divergence from their South African brothers. The two environments are most likely very similar. With a difference in the physical environment we generally find some divergence from the typical form of the insect, though mostly not sufficient to constitute an entirely distinct form or species. Many of the new forms described from the collection represent what are known as geographical races or species in the making.

The definite wet and dry seasons which prevail in most parts of Africa, have their effect on the butterfly fauna. Some species exhibit two quite different-looking forms, one flying in the wet, the other flying in the dry season. There are often two forms of male and two forms of female. One species of the Pierids possesses seven forms of female of which Mr. Barns took four. The dry season form of butterfly is especially common in the grassy steppe regions, whilst in the evergreen forest belt of the west, the butterflies are larger and more richly marked. These two types of country support quite different species and forms, but as these areas cut into one another we can see why the species are so widely distributed

The grassy steppes of the east are the habitat of a multitude of butterflies belonging to the family of the "Whites," amongst which, species of the genus *Teracolus* are conspicuously common, with their red- and purple-tipped wings. Together with these are great numbers of red-brown and yellow-brown spotted *Acraeids.*

As one reaches the forest lands of the west, the butterflies characteristic of dry country disappear, but whenever long grass country intersects the forest, these denizens of the steppes may be seen.

A rich diversity of butterflies and moths is found in the vast evergreen forests of the Congo basin, and it is remarkable what a number of species live in the gloomy depths of these forests where sunlight does not penetrate and where flowers are seldom seen. These insects find their sustenance in tree gums, sap, decaying animal matter, and

in the excrement of animals. The life and feeding habits of many of these beautiful butterflies is quite contrary to the popular idea which associates them with flowers and bright sunlight.

The different types of country traversed by the expedition exhibit different types of butterfly fauna. The Lufira Valley is very rich in species. Here one finds all types of butterflies ranging from the west coast, the Cameroons, Angola, the Congo Forest, East and South Africa. Though many of these remain unchanged, others are to be distinguished as races or as species whose further distribution is not fully known. Four butterflies and ten moths were new to science from this district. These include a very fine species of Agaristid moth which we have named *Milophrys barnsi*.

The district around Albertville produces dry country forms of East and South African types. Four butterflies are described as new from here.

The Ujiji, Ruanda, and Ruindi districts are mostly grassy steppes supporting South and East African elements. Two butterflies and thirteen moths are described as new from this region. The grassy steppes were found to be the habitat of a form of the English "Small Copper" (*Chrysophanus phlaeas pseudophlaeas* Luc.), scarcely distinguishable from our own. There also occurred more commonly the "Short-tailed Blue" (*Polyommatus boetica* L.), formerly found in England but occuring in Jersey and distributed to Polynesia. It occurs in suitable localities throughout Africa.

The volcanic region of Lake Kivu exhibits a type composed of modifications of East African and Ruwenzori forms, some species being identical even with those met with on Ruwenzori. Eight butterflies and eleven moths are described as new. These include two distinct *Acraeids* one of which, quite unlike any previously known, we have called *bettiana* in honour of Mrs. Barns. It was taken flying over the hot and dry lava plains. A remarkable Lycaenid (*Harpendyreus reginaldi* Heron) only previously known by one specimen from Ruwenzori, was observed visiting the flowers of giant heather around the Niragongo Volcano. A species of Fritillary (*Argynnis excelsior* Butl.) only known before from Ruwenzori, Lake Tanganyika and the Cameroons was found around the volcanoes visiting the flowers of thistles and similar plants. Four African species are known of this genus and a race of an Indian form occurs in Abyssinia.

The mountains of Ruwenzori on the west side where Mr. Barns collected, show a mixture of Congo and Uganda types. A number of small moths were found flying at 13,000 feet, and some of these proved to be new. From Ruwenzori we have four butterflies and eight moths which are new. A very pretty Noctuid moth from the Semliki was named *Diaphone barnsi*.

Aspects of Butterfly Life

The Ituri Forest is very rich in species whose allies may be found in Uganda and across the western forest belt to the coast. Twenty-three butterflies of which fifteen belong to the family of the "Blues" were found to be new, as well as six moths. One of these moths is the representative of a species of the Saturnid family hitherto known only from Sierra Leone. It is remarkable for the hind wing being produced to a very long tail This new form is much larger than its relative It has received the name of *Eudaemonia argiphontes barnsi.* The Leaf Butterfly (*Kallima cymodoce* Cram.) was observed feeding on small flowering plants in the Ituri district. When disturbed it flies into the undergrowth where it defies detection. A rarer species, but more strongly leaf-like in its markings on the underside, is *Kallima ansorgei* Roths., of which several specimens were taken in the dense forest.

The forest region of the Lindi and Congo rivers contains very similar forms to those found in the Ituri. There were, however, several forms new to science not represented in the Ituri Collection. These comprise eleven butterflies and four moths. One of the former, a richly coloured blue species of Lycaenid, we have named *Epamera barnsi.*

Scarcely anything is known as yet of the habits and life history of the majority of the African butterflies and moths, though many of the South African species have been worked out. In recent years, the life-history of many Southern Nigerian insects, especially the remarkable association of Lycaenids with ants, has been made known through the labours of Dr. W. A. Lamborn and Mr. C. O. Farquharson. Interested readers are referred to the transactions of the Entomological Society of London for 1913 and 1921. Most of the Lepidoptera have a very short period of flight, so that a collector who visits a locality at different times of the year will obtain a greater number of species than at any single period. On this account a vast number of species must await discovery on the African Continent.

List of Forms of Lepidoptera New to Science Collected by Mr. & Mrs. Barns.

By G. Talbot.

Descriptions of these insects and figures of most of them are published in "The Bulletin of The Hill Museum," Part I, 1921, and the types are in the collection of J. J. Joicey, Esq. A certain number of moths remain to be worked out, and it is probable that a few other novelties will be established.

The *Noctuidae* were worked out by Miss A. E. Prout, F.E.S., and the *Geometridae* by Mr. L. B. Prout, F.E.S.

BUTTERFLIES.

Family Pieridae

Mylothris interposita.—Bafwasende, April, one male.

Mylothris latimargo.—Lufira valley, one female; Urindi District, one male. Type from Kavirondo, E. Africa. (Coll. Neumann.)

Mylothris ruandana Strand.—The female. One male also taken on the lava plains, Kivu, October.

Pieris solilucis Butl.—Female form *sabulosa*.—Two females from Ituri district, January and February.

Pinacopteryx vidua Butl.—Female form *primulina*.—Two females from Ruanda, August.

Family Danaidae

Amauris egialea similis.—Type from Kivu, October, also two males from Semliki. Also known from Uganda, East Africa and Kilimanjaro.

Family Acraeidae

Planema macaria hemileuca Jord.—The female; also one male; both from Ituri, February and May.

Acraea eltringhami.—One male from Ruanda, September.

Acraea bettiana.—Kivu, September and October, five males and one female.

Acraea bettiana, form *kissejensis*.—One male from Kivu, September.

Acraea disiuncta Grosesmith, form *alciopoides*.—Resembles very strongly a common species called *Acraea alciope* Hew. Two males from the Ituri, January. Also known from Uganda.

Acraea leucopyga latiapicalis.—One male from the Upper Congo, June.

List of New Forms of Lepidoptera

Family Nymphalidae

Ergolis enotrea suffusa.—Male and female types from Albertville, June; also one male from Sabaka River. Also known from Uganda and Angola.

Ergolis albifascia.—Male and female types from Semliki and Lindi, December and April; also four males and one female from Ituri, January to May. Also known from W. Africa, Cameroons and Uganda.

Ergolis personata.—One female from Ituri, March. Types from Upper Kasai district. (Coll. Landbeck.)

Byblia acheloia crameri Auriv., form *nigrifusa.*—One female from the Lindi April.

Precis archesia Cram., form *obsoleta.*—Type from Ujiji district, July. Also known from Angola and Rhodesia.

Hypolimnas salmacis Drury, female form *ochreata.*—Found together with normal white females of the species from West Africa to Uganda.

Aterica galene Brown, form *albimacula.*—Found together with the typical form from West Africa to Uganda.

Cymothoe theobene D. & H., female form *umbrina.*—Two from Ituri, January and March. Also known from Ashanti, Cameroons and Upper Kasai.

Cymothoe eris Auriv.—The female from Tshopo River, April. Also known from Kasai River.

Euptera semirufa.—One female from the Ituri, March.

Euptera hirundo lufirensis.—Lufira Valley, May. Two males and one female.

Euryphura porphyrion congoensis.—Female from Ituri Forest, January. Male known from the Kasai River.

Euryphura plautilla Hew., female form *albimargo.*—One specimen from Ituri, January.

Diestogyna umbrina Auriv.—One specimen of the female from Ituri, February.

Euryphene laetitioides.—A series of eight males and seven females from Ituri, January and March, and Semliki, December. Also known from Cameroons, May and June.

Euryphene brunnescens.—Ituri, January to March, three males and two females; Semliki valley, December, two males.

Euphaedra ceres Fabr., form *phosphor.*—Three males from Albertville, June.

Euphaedra preussi Stgr., form *obsoleta.*—One female from Ituri, January.

Euphaedra lupercoides Roths.—One specimen of the female from Lindi, April.

Euphaedra eleus Drury, female form *coerulea.*—One specimen from the Ituri, February.

Euphaedra eleus nigrobasalis.—Lufira valley, May; one male and two females.

Charaxes imperialis albipuncta.—One male from Ituri, March. Also known from the Cameroons and Upper Kasai.

Charaxes eupale latimargo.—Ituri, January to May, seven males. Also known from the Cameroons, Congo and Uganda.

Charaxes subornatus minor.—Ituri, January to March; two males. Known also from Uganda and Nairobi.

Euxanthe crossleyi intermedia.—Two males from the Ituri, January.

List of New Forms of Lepidoptera

Family Satyridae

Mycalesis asochis congoensis.—Lindi district, April, two males; Congo, May, one male.

Mycalesis persimilis.—Ruwenzori from 1,500 to 2,200 metres, December, four males and one female.

Family Erycinidae

Abisara barnsi.—One female from the Semliki, December.

Family Lycaenidae

Telipna angustifascia.—One male from Bafwaboli. Also known from Upper Kasai, the Cameroons and Uganda.

Telipna subhyalina.—Ituri, March, two females.

Telipna hollandi.—Ituri, January, one male. Also known from Upper Kasai.

Pseuderesia neavei.—Five males from Semliki, January. Also known from Uganda.

Pentila auga congoensis.—Ituri, January, one male; Semliki, December, one female.

Citrinophila terias.—Ituri, January, two females.

Liptena ilma lathyi.—Five males from Kivu, November.

Eresina toroensis.—One female from Ituri, January. Also known from Uganda.

Epitola ammon.—One female from Ituri, March.

Epitola viridana.—One male from Ituri, March.

Epitola iturina.—A male from Ituri, April.

Epitola urania tanganikensis.—Albertville, June, three males.

Hewitsonia kirbyi Dew., female form *intermedia.*—Two specimens from Ituri, January and February. Also known from Uganda and Cameroons.

Hewitsonia boisduvali congoensis.—One male from Ituri, January. Also known from Upper Kasai.

Hypokopelates ituri Bethune-Baker, form *lineosa.*—Lindi district, April, five males; Ituri, March and April, four males.

Hypokopelates canesens.—One male from Albertville, June.

Tanuetheira prometheus congoensis.—One female from Albertville, June.

Argiolaus silaris iturensis.—One female from Bafwaboli, April.

Epamera fuscomarginata.—One male from Bafwaboli, April.

Epamera barnsi.—One male from Bafwaboli, April.

Epamera frater.—Lindi district, April, three males.

Hypolycaena buxtoni puella.—One female from Ruwenzori, 2,500 metres, December; one female from Ruanda, September.

Zeltus antifaunus latimacula.—One male from Ruindi district, July; four males and two females from Ruanda, August; one female from Ruindi plains, November. Also known from North Rhodesia and Uganda.

Cupidesthes cuprifascia.—One male from Bafwasende, April.

Cupidesthes minor.—One female from Ituri, April.

Lycaenesthes discimacula.—Ituri, January to May, three males.

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Lycaenesthes bipuncta.—One male from Semliki, January ; one female from Lindi district, April.
Triclema ituriensis.—Ituri, March to April, six males.
Oboronia rutshurensis.—Seven males from Kivu, November.
Catochrysops celaeus kivuensis.—Ituri, February, one male and one female ; Kivu, September and October, three females.
Catochrysops kisaba.—Kivu, September, seven males.

Family Hesperiidae

Sarangesa pandaensis.—Lufira Valley, May, two males.
Celaenorrhinus mozeeki kivuensis.—One male from Kivu, October.
Ceratrichia flava semlikensis.—Semliki, December, four males ; Ruwenzori, 2,200 metres, December, one female ; Ituri, January, one male.

MOTHS.

Family Amatidae

Apisa subargentea.—Ruanda, August, one female.
Metarctia virgata.—Kivu, 2,400 feet, September, two males.
Metarctia ochreogaster.—Ituri, January, two males ; Semliki, December, one male.

Family Arctiidae

Spilosoma rufa.—Kivu, September and October, two males.
Maenas nigrilinea.—One female from Ruanda, August.
Maenas paucipuncta.—One male from Ruanda, August.

Family Noctuidae

Timora joiceyi.—Lufira Valley, one male.
Craterestra sufficiens.—Urindi district, July and August, one male.
Aspidifrontia contrastata.—One female from Lufira Valley, March.
Diaphone barnsi.—Semliki, December, two females.
Graphania tortirena.—Ruwenzori, December, one female.
Plusiophaës metallica.—The type of a new genus. One male from the Urindi District, July and August.
Achaea determinata.—One male, probably from the eastern Kivu district.
Achaea tornistigma.—One male from Ruanda, August.
Nagia dentiscripta.—One female, Congo River, May.
Argyrolopha punctilinea.—Lufira Valley, November and December, one male.
Gorna polita.—One male from Congo, May. Also known from Gold Coast.
Egnasia scoliogramma.—One female from Ituri, March.
Bleptina cryptoleuca.—Semliki, December, one male.
Hypena albirhomboidea.—One female from Ruwenzori at 2,500 metres, December.
Hypena euthygramma.—Urindi district, August, one male.
Hypena semlikiensis.—Semliki, December, one male.

List of New Forms of Lepidoptera

Hypena ituriensis.—Two males from Ituri, January and February.
Hyblaea euryzona.—One male from Lufira Valley, May.

Family Agaristidae

Mitophrys barnsi.—Lufira Valley, December, one male.

Family Lymantriidae

Laelia conjunctifascia.—One male from the Malagarasi Valley, July. Also known from North-east Rhodesia.

Family Hypsidae

Phaegorista prouti.—One male from Lufira Valley, November to December.

Family Geometridae

Prasinocyma neglecta.—Urindi district, July and August, male and female. Also known from Nyasaland.
Eois oressigenes.—One female from Kivu, 2,800 metres, September.
Xanthorhoë latissima.—One male, probably from the eastern Kivu district.
Larentia barnsi.—Ruwenzori at 4,000 metres, December, seven males.
Larentia altipeta.—Ruwenzori at 3,000 metres, December, one female.
Calostigia conchulata.—One male from Kivu, October.
Calostigia phiara.—One male from Ruwenzori, 2,300 metres, November.
Euphyia altispex.—Two males from Kivu, October, one at 4,000 metres.
Epirrhoë euthygramma.—One male from Kivu, October.
Hydrelia sjostedti mionoseista.—Kivu, August to September, three males.
Asthenotricha semidivisa euchroma.—One male from Kivu, October.
Asthenotricha straba.—Kivu, September and October, two males. Also known from East Africa.
Asthenotricha malostigma.—One male from Kivu at 2,600 metres, October.
Lobidiopteryx stulta.—Ituri, January, one male.
Cleora inaequipicta.—One male from Lufira Valley, November to December.
Pitthea sospes.—One male from North Rhodesia, January. Also known from North-west Rhodesia.
Pitthea neavei aurantifascia.—Ruanda, August, four males and one female.
Terina tanyeces.—One male from Ituri, January.
Ereunetea acrogyra.—Urindi district, July, one female.
Amnemopsyche charmione lufira.—Lufira Valley, February to April, five males and one female.
Zamarada hero.—Congo, May, one male.
Zamarada enippe.—Congo, May, one male.
Zamarada acosmeta.—Urindi district, July to August, one female; Malagarasi Valley, July, one female.

Family Saturniidae

Pseudaphelia basiflava.—Congo, May, one male.
Eudaemonia argiphontes barnsi.—Ituri, March, one male.

List of New Forms of Lepidoptera

Family Limacodidae

Thosea rufimacula.—Lufira Valley, November, one female. Also known from Portuguese East Africa.

Family Uraniidae

Epiplema costilinea.—One female from Ujiji district, July. Also known from Uganda.

Family Zygaenidae

Netrocera jordani.—Kivu, October, two males.
Pedoptila nigrocristata.—North-east Rhodesia, April, one female.
Semioptila lufirensis.—Lufira Valley, September, five males.

Tables

THE following tables give the rainfall for the north end of Lake Kivu, a high mountainous region intermediate between the steppes of the east and the forests of the west. Similar rainfall conditions may be said to prevail as far south as the second degree south of the Equator, after which the duration of the dry and the wet seasons becomes more marked, until they emerge into the clearly-defined six wet and six dry months experienced in the regions of South Tanganyika and Nyasaland.

RECORDED AT BOBANDANA. NORTH KIVU REGION
1,534 METRES A.S.L.

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1916.	January	Unrecorded	—
	February	11 ..	45
	March	17 ..	115
	April	23 ..	350
	May	26 ..	276
	June	8 ..	75
	July	5 ..	33
	August	8 ..	38
	September	13 ..	169
	October	9 ..	107
	November	8 ..	261
	December	11 ..	192
	Total		1,661

Tables

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1917	January	Unrecorded ..	—
	February..	17 ..	161
	March	23 ..	158
	April	27 ..	414
	May	26 ..	376
	June	9 ..	45
	July	3 ..	18
	August	9 ..	19
	September	19 ..	184
	October	17 ..	230
	November	16 ..	93
	December	10 ..	79
	Total		1,777

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1918	January	17 ..	218
	February..	5 ..	64
	March	15 ..	118
	April	13 ..	240
	May	— ..	164
	June	— ..	39
	July	— ..	17
	August	8 ..	51
	September	15 ..	114
	October	17 ..	206
	November	9 ..	63
	December	5 ..	49
	Total		1,343

Tables

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1919.	January	15 ..	117
	February	13 ..	88
	March	13 ..	75
	April	22 ..	114
	May	18 ..	207
	June	7 ..	54
	July	7 ..	61½
	August	7 ..	92½
	September	14 ..	65

Unrecorded after September.

The following records were made at Avakubi on the Ituri River, in the central Ituri forest region about 1° 20′ north of the Equator.

AVAKUBI. ITURI RIVER.
580 METRES A.S.L.

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1917	January	9 ..	64
	February	8 ..	87
	March	7 ..	131
	April	9 ..	145
	May	13 ..	285
	June	7 ..	103
	July	5 ..	112
	August	4 ..	49
	September	Unrecorded ..	—
	October	5 ..	67
	November	5 ..	66½
	December	3 ..	50
	Total		1,159½

Tables

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1918.	January	Nil.	Nil.
	February	8 ..	108
	March	13 ..	67½
	April	11 ..	107¼
	May	9 ..	95½
	June	6 ..	72
	July	5 ..	46
	August	10 ..	190
	September	8 ..	77
	October	8 ..	171
	November	8 ..	116
	December	6 ..	101
	Total		1,151¼

Year.	Month.	No. of days on which rain fell.	Amount in millimetres.
1919.	January	7 ..	59½
	February	11 ..	80½
	March	9 ..	135
	April	11 ..	167
	May	14 ..	123
	June	15 ..	151½
	July	12 ..	146
	August	10 ..	154
	September	17 ..	237
	October	12 ..	123
	November	16 ..	200
	December	12 ..	97
	Total		1,673½

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